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33rd ANNUAL McGRAW-HILL SURVEY OF PRELIMINARY PLANS FOR NEW PLANTS & EQUIPMENT, 1986-88

Optimism is in rather short supply throughout the boardrooms of America. Respondents to McGraw-Hill's latest survey of business investment plans revealed that they were raising their plant and equipment budgets for 1987 just 0.4% to $375 billion (Table I*). The most ambitious capital spending budgets are in electrical and nonelectrical machinery, other nondurables (printing and publishing), and instruments. The industries planning the largest cutbacks are mining, petroleum, and motor vehicles and parts.

Since businesses overall expect a 3.6% rise in plant and equipment prices next year (Table II), only a handful of industries plan any real increase in spending. Indeed, if respondents' investment and inflation projections materialize, real capital spending will actually drop 3.1% next year.

These are the key findings of McGraw-Hill's 33rd Annual Survey of Preliminary Plans for New Plants & Equipment, 1986-88. The survey was conducted in September and October, and drew responses from 442 companies that account for 21% of plant and equipment spending in the United States (Table X). Figures in this report are adjusted to represent spending by all U.S. companies and reflect domestic investment only.

Why this pessimism? While technically we are about to complete the fourth year of a recovery, real GNP has been mired below 3% growth for the past two years. The U.S. trade deficit has continued to widen despite a significantly weaker dollar. While the collapse of oil prices in early 1986 reduced fears of

*Tables denoted by Roman numerals appear at the end of this report.

McGraw-Hill

Chart 1
Real GNP Growth
(Quarter-to-quarter percent change, SAAR)

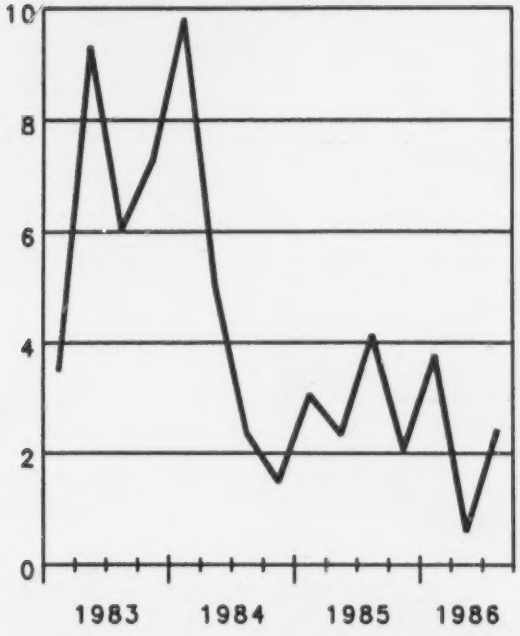
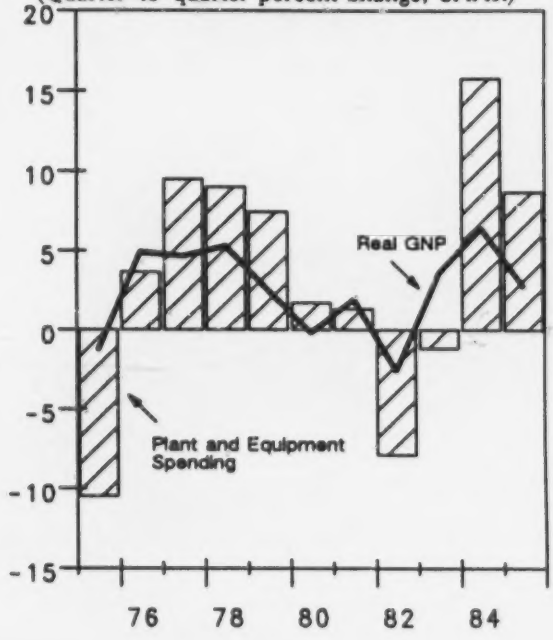


Chart 2
Real GNP and Real Business Investment in Plant and Equipment
(Quarter-to-quarter percent change, SAAR)

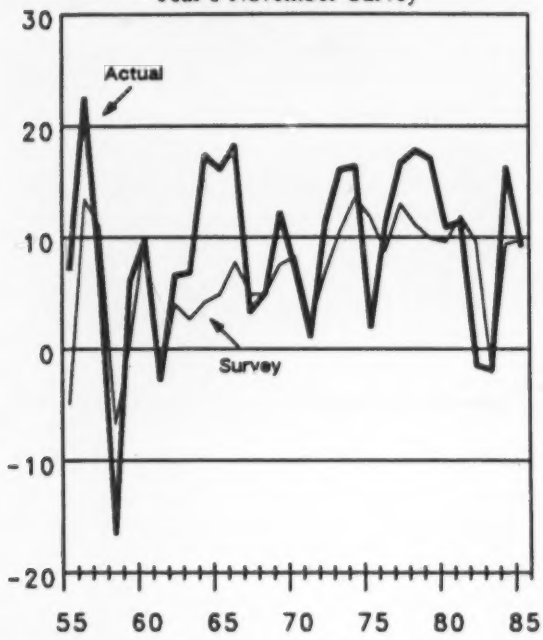


renewed inflation, it also scuttled investment in the petroleum and mining sectors. Even more important, U.S. industries are operating at only 79% of capacity. With growth next year anything but certain, firms are spending for replacement needs and perhaps modernization--but definitely not for expansion.

The current survey reveals a deterioration in spending plans since the last McGraw-Hill poll in the spring, when respondents reported a cutback of 0.5% for 1986. The 3.5% decline now estimated for this year may be unduly pessimistic, considering the likelihood of a healthy fourth-quarter finish. But much of this strength reflects buying in advance of tax reform, as well as the usual fourth-quarter spending surge generated by the "half-year" convention in the depreciation laws. Buying forward will create a spending vacuum in the first quarter of 1987, and capital spending will remain depressed throughout the year.

The new tax code cuts personal income taxes by $122 billion over five years and shifts this revenue shortfall to corporations, largely by reducing investment incentives. The Joint Committee on Taxation estimates that the retroactive elimination of the investment tax credit (ITC) as of January 1986 will alone cost businesses $120 billion of this total. Longer depreciation lifetimes add $3 billion, the corporate

Chart 3
Survey Track Record
Percentage Change Taken From Prior Year's November Survey



minimum tax $21 billion, and accounting rate changes another $61 billion. These federal revenue gains will be partially offset by the corporate statutory rate cut.

Today, with high vacancies in office markets and low industrial capacity utilization rates, the outlook for investment is already dismal; tax reform makes it even gloomier. While industries will still invest in new

Table 1
Static Impact of Tax Reform
on Federal Government Receipts
(Billions of dollars, fiscal years)

	1987	1988	1989	1990	1991
Personal	-14	-41	-38	-16	-13
Corporate	25	24	23	23	25
ITC	19	21	25	26	28
Depreciation	-3	-3	*	*	9
Rate Reduction**	-7	-20	-28	-30	-32
Minimum Tax	3	5	5	4	4
Accounting Provisions	10	15	14	13	9
Other	3	6	7	10	7
Total	11	-17	-15	8	12

*Less than $500 million.
**Includes interactions between rate changes and other provisions of the bill.

Source: Joint Committee on Taxation

Table 2
Impact of Tax Reform on Investment Returns
(Percent)

	1979:3	1985:4	1988:1
Corporate Equipment			
Required Return As Percent of Purchase Price	20.6	18.3	19.9
Cost of Funds	13.3	9.7	8.1
Average Lifetime (Years)	8.1	4.2	6.1
Present Value of Depreciation	0.68	0.83	0.83
Net ITC*	9.1	7.7	0.0
Corporate Structures			
Required Return As Percent of Purchase Price	17.1	14.6	13.5
Cost of Funds	13.3	9.7	8.1
Average Lifetime (Years)	39.1	19.0	31.5
Present Value of Depreciation	0.24	0.52	0.37
Investor Structures**			
Required Return As Percent of Purchase Price	4.8	7.3	9.4
After-Tax Cost of Debt	6.3	7.1	6.8
Average Lifetime (Years)	39.1	19.0	31.5
Present Value of Depreciation	0.13	0.32	0.16
Net Rehab. Tax Credit*	0.0	1.1	0.7
Addendum			
Cost of Equity	16.1	11.3	9.0
Corporate New Issue Rate	9.5	10.4	8.6
Inflation Rate (GNP deflator)	8.1	3.7	4.1
Expected Inflation Rate	7.6	4.4	3.0

*Average tax credit reduced by the value of the basis adjustment.

**Investor structures are held for 10 years and financed with 80% leverage from a 20% equity participation. The passive loss limitation is assumed to reduce the value of interest and depreciation deductions by 25%.

equipment to remain competitive, the almost 10% higher return now required will slow gross investment and result in an older and smaller capital stock.

Previous Data Resources (DRI) analysis has shown that the simple exchange of high-powered incentives like the ITC for low-powered incentives like reduced statutory rates reduces spending in capital-intensive

Table 3
Demand Impacts of Tax Reform
(Percent difference from baseline)

	1987	1988	1989	1990	1991	1987-91
Consumption	0.0	0.4	0.3	0.0	-0.1	0.1
Fixed Investment	-3.1	-4.4	-3.7	-3.6	-2.7	-3.5
Residential	-1.4	-0.5	-0.8	-0.1	1.2	-0.3
Nonresidential	-3.9	-5.8	-4.9	-4.9	-4.2	-4.7
Equipment	-2.8	-4.9	-5.1	-6.2	-5.5	-5.0
Structures	-6.6	-8.2	-4.4	-1.3	-0.2	-4.1
Real GNP	-0.4	-0.3	-0.2	-0.3	-0.2	-0.3

Source: Data Resources. Above information not derived from Survey.

Chart 4
Real Investment in Plant and Equipment
by All Manufacturing Industries (Percent change)
and Manufacturing Capacity Utilization (Percent)

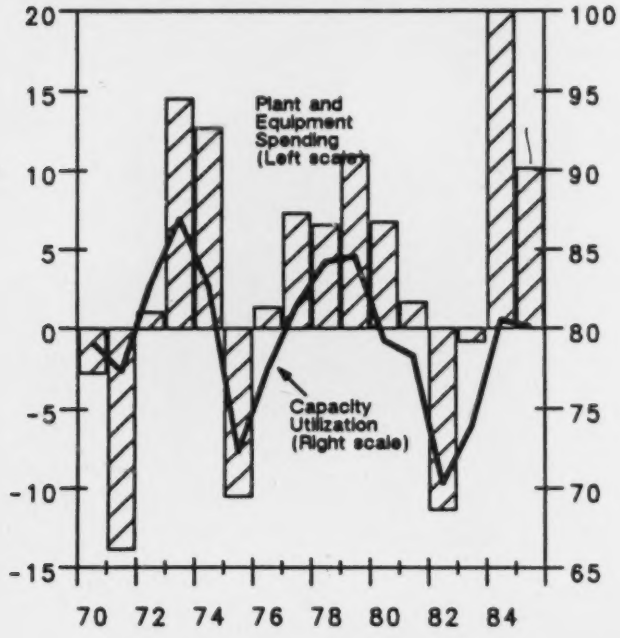
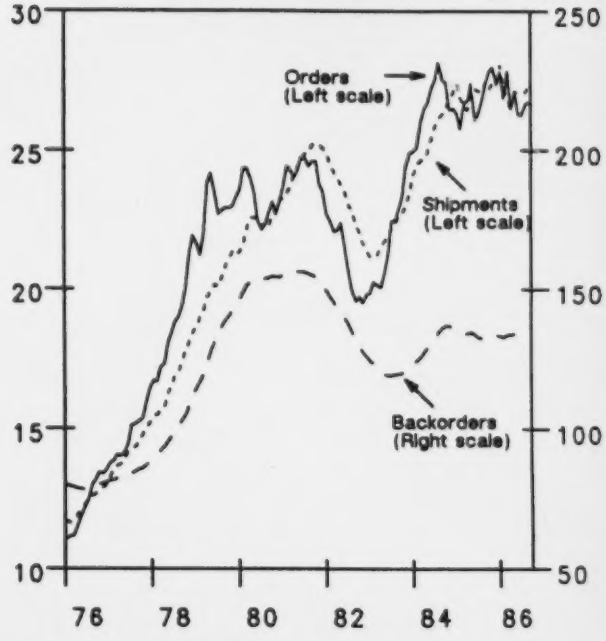


Chart 5
Orders, Shipments, and Backorders
of Nondefense Capital Goods
(Billions of dollars)



industries. Tax reform is expected to slow real GNP gains by 0.4% in 1987 and hold real growth 0.2% below what it would otherwise be in 1991. This reflects the negative impact of tax law changes on nonresidential fixed investment: DRI estimates that spending in this category will drop 4.7% annually over the next five years because of tax reform; equipment spending will be down 5.0% during this period while structures investment faces a 4.1% falloff.

On the bright side, inflation should be lower than survey respondents expect. The fall surveys have historically predicted much larger price increases than actually occurred. In November 1985, for example, respondents projected a 4.7% increase in plant and equipment prices and a 4.0% rise in product prices for 1986. Plant and equipment prices are currently running at roughly 1.5% above last year's price level, while product prices have in fact fallen. (Much of this decline, however, can probably be explained by the unexpectedly large decline in oil prices.) In the current survey, respondents see plant and equipment price inflation of 3.6% in 1987, with product prices up 2.6% (Table II). By comparison, DRI predicts less than 2% inflation next year.

Just as inflation fears tend to be exaggerated, an unmistakable bullishness pervades the sales projections. Survey respondents predict an 8% rise in manufacturing sales before inflation (5.2% after) for the

Table 4
Capital Equipment Spending
(Billions of 1982 dollars)

	Quarterly					Annual		
	85:3	85:4	86:1	86:2	86:3	1983	1984	1985
Total Equipment	310.9	324.5	309.7	323.9	327.4	233.9	280.9	309.2
Information Processing & Related Eq.	112.1	119.2	106.8	116.3	118.7	78.3	98.4	111.5
Office & Computing Machinery	56.4	61.7	51.7	61.6	61.8	32.3	46.4	55.9
Communication Equipment	31.7	33.3	31.1	31.2	33.3	26.9	29.7	31.7
Scientific & Engineering Inst.	12.0	12.4	11.7	11.9	12.1	10.0	10.5	11.9
Photocopy & Related Equipment	12.0	11.8	12.3	11.6	11.4	9.1	11.8	11.9
Industrial Equipment	51.1	54.1	53.3	54.7	53.7	42.8	49.1	52.1
Fabricated Metals	9.7	9.9	9.5	9.6	9.4	8.4	8.0	9.6
Metalworking Machinery	14.1	15.2	14.8	14.5	13.5	11.2	13.7	14.4
Special Industrial Eq.	11.6	12.4	12.4	13.1	14.5	10.5	11.6	12.1
General Industrial Eq.	15.7	16.6	16.6	17.4	16.4	12.7	15.7	16.1
Transportation Equipment	72.3	72.4	70.4	73.4	77.4	49.1	61.1	69.3
Trucks, Buses & Trailers	28.1	30.9	26.1	28.0	29.7	18.6	27.4	29.0
Autos	26.9	22.5	23.7	25.1	27.4	17.9	21.9	24.1
Aircraft	13.6	15.8	17.8	17.5	16.9	9.3	8.5	12.8
Ships & Boats	1.7	1.5	1.3	1.2	1.4	2.2	1.8	1.7
Railroad Equipment	1.9	1.7	1.5	1.6	2.0	1.1	1.5	1.7
Energy and Related Eq.	18.5	18.8	18.2	16.8	16.8	15.6	17.3	17.8
Engines & Turbines	1.7	2.1	2.3	1.6	1.4	1.4	1.6	1.9
Electrical Trans. & Dist. Eq.	12.9	12.8	12.3	12.2	12.6	10.1	11.7	12.1
Mining & Oilfield Machinery	4.0	3.9	3.6	3.0	2.8	4.0	4.0	3.8
Miscellaneous Equipment	58.6	61.9	62.9	64.7	62.7	49.6	56.4	60.3
Furniture & Fixtures	13.7	14.2	13.8	13.7	13.9	10.9	12.5	13.8
Tractors	5.8	6.1	6.1	6.3	5.6	5.1	6.0	5.9
Agricultural Machinery	6.5	7.1	6.7	6.9	6.7	6.5	6.5	6.7
Construction Machinery	10.0	11.7	12.7	13.1	11.8	6.6	8.5	10.6
Service Industry Machinery	6.8	6.7	6.6	6.8	6.8	6.2	7.3	7.1
Electrical Equipment, n.e.c.	7.4	7.9	7.5	8.1	8.5	6.0	7.1	7.4
Other Equipment	8.4	8.2	9.4	9.8	9.3	8.3	8.6	8.7
	Annual Rates of Change							
Total Equipment	2.6	18.8	-17.0	19.7	4.3	4.7	20.1	10.1
Information Processing & Related Eq.	2.5	27.8	-35.5	40.5	8.5	17.6	25.7	13.4
Office & Computing Machinery	-1.2	43.2	-50.8	101.2	1.4	55.5	43.7	20.5
Communication Equipment	11.6	22.3	-24.1	1.9	29.2	-2.3	10.6	6.8
Scientific & Engineering Inst.	-5.3	14.0	-19.0	4.8	9.2	5.4	4.6	13.9
Photocopy & Related Equipment	6.2	-8.3	18.7	-20.7	-4.8	3.4	29.7	1.4
Industrial Equipment	-12.6	25.5	-5.3	10.3	-6.7	-10.2	14.7	6.2
Fabricated Metals	-6.0	8.2	-13.3	2.2	-7.7	-12.1	-4.5	19.4
Metalworking Machinery	-1.1	34.3	-9.8	-6.4	-26.7	-17.6	22.6	4.6
Special Industrial Eq.	-31.4	31.4	-0.4	25.9	48.7	0.4	10.8	4.1
General Industrial Eq.	-9.8	24.9	0.2	20.2	-21.5	-9.8	23.8	2.3
Transportation Equipment	27.4	0.8	-10.6	18.2	23.8	15.6	24.3	13.4
Trucks, Buses & Trailers	-6.6	45.8	-49.0	32.5	26.9	14.5	47.3	5.6
Autos	57.1	-51.5	23.9	24.5	43.0	45.2	22.0	10.1
Aircraft	75.9	85.2	58.6	-6.0	-13.0	9.3	-9.0	51.7
Ships & Boats	-14.9	-43.7	-43.9	-19.4	81.2	-39.1	-17.3	-5.3
Railroad Equipment	38.4	-37.3	-37.4	33.5	125.1	-38.9	38.9	12.0
Energy and Related Eq.	30.1	5.7	-12.1	-27.3	0.1	-14.8	11.4	2.8
Engines & Turbines	-16.7	160.1	38.3	-73.7	-44.8	-5.0	12.2	14.5
Electrical Trans. & Dist. Eq.	51.1	-4.3	-13.2	-3.8	14.3	0.3	16.4	3.1
Mining & Oilfield Machinery	-1.0	-4.6	-29.7	-53.6	-22.7	-39.7	-1.5	-2.9
Miscellaneous Equipment	-14.9	24.4	6.1	12.4	-12.0	-1.6	13.7	6.8
Furniture & Fixtures	-9.4	13.4	-11.1	-0.8	3.4	5.9	13.7	11.1
Tractors	-7.8	25.1	3.7	7.6	-33.8	-0.5	16.4	-0.5
Agricultural Machinery	-31.4	41.9	-21.3	12.4	-9.7	-18.2	0.1	3.4
Construction Machinery	-5.3	87.6	36.8	15.5	-35.5	2.4	29.8	23.6
Service Industry Machinery	-24.2	-8.0	-5.3	15.5	-0.5	1.8	18.3	-2.3
Electrical Equipment, n.e.c.	19.4	31.0	-18.3	30.5	24.5	8.3	17.5	4.3
Other Equipment	-36.4	-7.5	74.4	15.8	-17.2	-7.3	3.9	1.1

upcoming year (Tables III and IV). This is certainly far from the near-recessionary outlook in their projected capital spending budgets.

The beleaguered manufacturing sector expects to recoup at least some of last year's 8.8% investment decline by posting an aggregate increase of 1.4% in 1987. Durable manufacturers lead this rebound, planning to pump 4% more funds into plant and equipment budgets.

Despite excess capacity, manufacturers of electrical machinery are planning to increase their capital spending by 8.7% next year. The reason for this strength is most likely the need to catch up with replacement and modernization plans deferred this year: this sector cut capital spending nearly 15% in 1986. Makers of electrical industrial apparatus and electric lighting and wiring anticipate budget increases of more than 50% in 1987, following severe capital spending cutbacks in 1985. Household appliance and electric distributing equipment manufacturers also look for healthy spending gains. Electronic component

Table 5
Nonresidential Construction
(Billions of 1982 dollars)

	Quarterly					Annual		
	85:3	85:4	86:1	86:2	86:3	1983	1984	1985
Total Structures.....	152.28	152.40	148.09	132.89	129.72	127.23	141.30	152.18
Buildings & Other.....	89.14	91.44	91.30	83.71	83.52	67.91	79.00	89.66
Offices.....	28.06	28.06	27.68	25.47	25.06	20.01	23.81	28.13
Stores & Warehouses..	24.66	26.31	27.45	24.60	25.25	14.46	20.34	24.98
Industrial.....	13.90	14.21	13.26	11.88	11.18	12.40	12.63	14.05
Institutional.....	8.84	8.58	8.86	8.92	9.25	9.39	9.05	8.61
Educational.....	1.54	1.64	1.84	1.79	1.62	1.36	1.30	1.49
Religious.....	2.33	2.25	2.28	2.22	2.54	1.71	1.96	2.14
Hospitals.....	4.97	4.68	4.75	4.91	5.09	6.32	5.79	4.98
All Other.....	13.68	14.29	14.05	12.83	12.78	11.64	13.16	13.90
Public Utilities.....	27.14	27.10	27.86	27.21	26.92	24.78	23.50	26.41
Telephone & Telegraph	6.86	6.53	6.84	6.96	6.82	6.13	6.70	6.91
Mining & Petroleum.....	36.00	33.86	28.93	21.97	19.29	34.55	38.80	36.12
Annual Rates of Change								
Total Structures.....	-4.7	0.3	-10.8	-35.2	-9.2	-11.2	11.1	7.7
Buildings & Other.....	-4.1	10.7	-0.6	-29.4	-0.9	-8.7	16.3	13.5
Offices.....	-5.3	-0.1	-5.3	-28.2	-6.4	-13.2	19.0	18.1
Stores & Warehouses..	-0.6	29.6	18.6	-35.6	11.0	1.6	40.7	22.8
Industrial.....	-5.4	9.1	-24.2	-35.5	-21.7	-28.5	1.8	11.2
Institutional.....	3.5	-11.3	14.0	2.4	15.9	7.1	-3.7	-4.8
Educational.....	13.2	28.6	55.9	-9.4	-33.7	0.4	-4.6	14.9
Religious.....	34.7	-12.1	4.3	-9.8	73.1	11.1	14.3	9.4
Hospitals.....	-10.4	-21.2	6.0	13.8	16.0	7.6	-8.3	-14.1
All Other.....	-10.6	18.9	-6.4	-30.4	-1.7	6.2	13.1	5.6
Public Utilities.....	0.9	-0.6	11.6	-9.0	-4.2	-12.6	-5.2	12.4
Telephone & Telegraph	-16.5	-18.0	20.3	7.5	-8.1	-12.5	9.2	3.2
Mining & Petroleum.....	-10.3	-21.7	-46.7	-66.7	-40.6	-14.9	12.3	-6.9

makers apparently feel some easing of foreign competition and plan to respond by upping capital investment more than 35%. The only electrical machinery subsector to report a spending decline--of some 5%--in 1987 is communication equipment. This industry continues to suffer from the profit squeeze gripping its customers, particularly phone companies jockeying for market share in the wake of AT&T's breakup.

Nonelectrical machinery manufacturers suffered many of the same ills as electrical machinery makers this year: a generally weak economy that caused them to trim plant and equipment investment roughly 12%. In 1987, however, they plan to regain lost ground and increase total investment 5.7%--led by a 70% jump in spending by special industry machinery manufacturers, a 16.6% rise in computer companies, and a 6.6% increase in the metalworking machinery industry. In contrast, farm equipment manufacturers foresee no end to the agricultural sector's woes and plan reductions next year comparable to this year's 30% cutback. With nonresidential construction faltering and the mining sector stunned, makers of construction, mining, and materials handling equipment project additional capital investment cuts of 36% in 1987.

Regardless of publicity surrounding the record number of auto sales this fall, the auto, trucks, and parts industry projects a spending decline of 2.3% next year. The periodic necessity of financing deals to reduce automobile inventories indicates excess capacity. In addition, sales of domestically produced cars are expected to weaken substantially next year. Moreover, competition among truckers has already forced enormous efficiency improvements in trucks that greatly reduce replacement needs.

Instrument manufacturers are also planning a big capital spending increase: after a 4.2% cutback in capital budgets this year, they project a 17% jump for 1987--largely on the strength of medical and optical instrument makers. Nonferrous metal producers plan for a 7.4% rise, with its rolling and drawing sector intending sizable increases.

Iron and steel works report the most ambitious plans of more than a 36% spending increase for next year. Given the industry's low capacity utilization rate and continuing after-tax losses, however, this estimate seems high and may be an anomaly because of the relatively small sample size.

Nondurable manufacturers, for the most part, do not share the relative optimism of durable manufacturers, indicating that they intend to cut investment outlays 1.1%. Their outlook could have been

gloomier, except petroleum refiners apparently think the worst is past as their capacity utilization rates broke 91% during the second and third quarters of 1986, and second-quarter profits approached 1984 levels; refiners project budget cuts of only 4% in 1987 after an estimated 33% falloff this year.

Table 6
Durable Indicators
(Billions of dollars*)

	Quarterly					Annual		
	85:3	85:4	86:1	86:2	86:3	1983	1984	1985
Iron & Steel								
Capacity Utilization Rate (%)	67.3	70.0	66.7	60.0	59.7	57.6	67.2	67.5
Shipments	53.7	52.1	49.4	48.3	46.4	48.4	53.8	52.6
New Orders	54.1	52.6	51.4	44.7	49.4	51.6	52.5	53.1
After-Tax Profits	-1.1	-1.6	-1.4	-1.6	NA	-3.7	-0.4	-1.3
Nonferrous Metals								
Capacity Utilization Rate (%)	81.0	81.0	81.1	80.7	78.2	69.9	80.4	80.6
Shipments	59.3	58.0	56.5	55.3	54.5	57.8	62.3	58.6
New Orders	58.0	57.5	57.1	51.3	53.4	59.9	61.3	58.2
After-Tax Profits	-1.1	-2.2	0.7	1.0	NA	-0.3	-0.1	-1.0
Electrical Machinery								
Capacity Utilization Rate (%)	72.9	72.8	71.6	71.2	71.4	72.7	79.9	74.7
Shipments	184.6	194.8	187.4	189.5	201.2	155.9	182.3	185.5
New Orders	186.9	193.5	192.5	192.1	202.4	165.7	191.1	188.9
After-Tax Profits	6.3	6.1	6.9	9.4	NA	6.4	8.6	6.9
Nonelectrical Machinery								
Capacity Utilization Rate (%)	74.6	73.7	72.8	70.9	71.1	66.4	76.3	75.1
Shipments	209.4	215.0	204.3	209.0	201.0	178.3	209.6	212.5
New Orders	211.8	203.6	199.8	200.5	202.6	180.9	212.4	210.5
After-Tax Profits	8.8	12.4	5.5	8.8	NA	7.7	12.0	9.7
Autos, Trucks & Parts								
Capacity Utilization Rate (%)	84.0	81.6	82.3	79.8	79.4	68.9	81.6	82.9
Shipments	201.1	212.8	216.1	206.1	206.5	152.8	192.3	203.9
After-Tax Profits	5.4	10.7	10.0	11.6	NA	7.2	10.6	9.1
Aerospace								
Shipments	91.7	99.1	92.1	95.7	98.5	70.8	76.8	90.3
New Orders	119.6	107.5	111.5	90.0	109.1	81.5	92.9	101.2
After-Tax Profits	2.9	1.6	4.2	4.6	NA	2.8	3.6	3.3
Fabricated Metals								
Capacity Utilization Rate (%)	80.1	80.9	81.2	80.2	79.1	67.2	77.3	80.5
Shipments	173.4	176.2	170.0	171.6	168.8	120.6	139.2	168.9
New Orders	172.5	177.1	167.0	170.7	166.8	119.5	140.3	167.7
After-Tax Profits	3.5	2.3	3.7	4.7	NA	2.7	4.6	3.4
Instruments								
Capacity Utilization Rate (%)	82.6	81.4	81.9	80.5	80.1	78.6	84.4	82.5
Shipments	56.6	57.1	56.5	55.8	56.2	47.9	53.5	56.8
New Orders	57.0	57.4	55.7	55.2	57.1	48.6	54.2	57.1
After-Tax Profits	3.8	2.4	-0.5	2.9	NA	3.7	4.2	3.6
Stone, Clay & Glass								
Capacity Utilization Rate (%)	81.6	81.2	82.6	82.9	81.9	72.1	81.3	80.9
Shipments	57.3	57.2	59.6	59.7	58.4	49.0	55.0	57.3
New Orders	57.3	58.3	60.0	59.1	58.3	49.3	55.5	57.5
After-Tax Profits	2.0	1.7	0.8	2.8	NA	1.0	1.9	1.6

*Shipments and new orders are at seasonally adjusted annual rates. Profits are at annual rates but not seasonally adjusted.

After years of cutbacks, plant closings, and layoffs, the troubled textile industry is quietly making a comeback. The now-leaner industry is enjoying near-95% capacity utilization, after-tax profits some 70-75% above 1985 levels, and stricter import quotas recently imposed on Japanese competitors. The survey reveals that the textile industry plans to boost plant and equipment investment more than 4% next year.

Following this year's estimated drop of 5.3%, the chemical industry also shows some strength with a 1% rise in capital investment; this total is depressed somewhat by planned cuts in the large industrial inorganic sector. The 13.3% aggregate investment rise slated for other nondurables in 1987 is largely due to projected increases by apparel makers and the printing and publishing industry. The estimate for the paper and pulp mill industry of a 24% drop in spending is clearly surprising: recent indicators show good profit and sales growth, as well as a high capacity utilization rate. Contemplated capital budget cuts for 1987 could transform into increases by early next year.

Table 7
Nondurables Indicators
(Billions of dollars)

	Quarterly					Annual		
	85:3	85:4	86:1	86:2	86:3	1983	1984	1985
Chemicals								
Capacity Util. Rate (%)	78.8	78.2	79.9	80.4	80.9	73.4	76.8	78.5
Shipments.....	216.5	214.2	214.6	211.9	213.4	190.7	211.8	214.3
After-Tax Profits.....	8.8	3.1	12.5	14.9	NA	11.6	13.9	9.5
Paper								
Capacity Util. Rate (%)	91.4	92.0	93.9	94.7	96.5	89.5	93.3	91.7
Shipments.....	97.3	98.7	103.1	107.6	112.6	85.2	95.9	97.6
After-Tax Profits.....	2.4	2.8	2.4	3.7	NA	2.3	3.0	2.9
Rubber & Plastics								
Capacity Util. Rate (%)	87.1	86.8	85.9	84.8	87.3	80.0	89.0	87.0
Shipments.....	46.5	48.4	47.9	48.2	46.0	50.4	52.2	48.3
After-Tax Profits.....	2.0	1.3	1.5	2.4	NA	1.9	2.3	1.6
Petroleum								
Capacity Util. Rate (%)	85.0	86.2	89.3	91.2	91.2	77.0	83.3	84.5
Shipments.....	191.7	198.6	169.9	145.0	129.0	191.4	200.7	194.0
After-Tax Profits.....	13.8	13.1	11.2	16.9	NA	19.3	17.2	12.7
Food & Beverage								
Capacity Util. Rate (%)	79.5	78.6	78.7	79.0	79.0	78.2	79.8	79.1
Shipments.....	293.9	296.5	302.1	306.2	317.3	286.5	295.1	296.2
Textiles								
Capacity Util. Rate (%)	85.5	88.1	88.0	90.4	92.6	83.2	85.5	84.0
Shipments.....	52.8	55.2	53.2	52.6	55.9	52.2	55.1	52.6
After-Tax Profits.....	1.1	1.9	1.7	2.1	NA	1.6	1.6	1.2

*Shipments are at seasonally adjusted annual rates. Profits are at annual rates but not seasonally adjusted.

Among nonmanufacturing service industries, capital budget plans run the gamut from deep slashes to steep hikes, but nearly cancel the extremes by posting an average 0.2% drop for next year. Railroads are still saddled with overcapacity, relatively flat carloadings, and tight profit margins, despite lower fuel prices and cost-cutting measures. Consequently, they plan to cut investment some 19% next year. The oil price

Table 8
Nonmanufacturing Indicators

	Quarterly					Annual		
	85:3	85:4	86:1	86:2	86:3	1983	1984	1985
Mining								
Bituminous Coal Production --Thousand short tons	886,516	872,740	914,148	882,808	858,816	778,002	891,760	878,930
Oil & Gas Well Footage Drilled --Thousands of feet	288,445	251,011	129,838	NA	NA	310,275	358,790	288,580
Refiners' Acquisition Price of Oil--Dollars	26.50	26.74	20.49	13.05	12.71	28.87	28.53	26.65
Railroads								
Revenue Freight Ton-Miles --Billions of ton miles	864.8	862.8	878.4	886.0	NA	826.1	921.8	875.2
New Freight Cars, Unfilled Orders --Thousands of cars	2.6	1.8	3.4	4.2	NA	3.3	5.2	1.8
Airlines								
Passenger-Miles Revenue--Billions	370.7	317.8	327.3	NA	NA	277.1	298.2	331.7
Passenger Load Factor--(%)	62.9	56.4	59.1	NA	NA	60.6	59.1	61.4
Electric Utilities								
Electricity Output --Billions of kw-hr	2,440	2,513	2,415	2,514	2,440	2,308	2,417	2,471
Electric Utility Revenues --Millions of dollars	165,388	143,712	150,437	142,010	NA	129,955	142,259	148,877
Gas Utilities								
Natural Gas Sales--Trillion btu	8,201	13,018	17,761	8,325	NA	12,905	13,335	12,617
Gas Utility Revenues --Millions of dollars	37,945	62,745	84,603	NA	NA	65,147	67,510	61,952
Communications								
Commercial Construction --Billions of 1982 dollars	52.7	54.4	55.1	50.1	50.3	34.5	44.2	53.1
Consumer Spending on Financial Services --Billions of 1982 dollars	96.1	99.1	101.2	103.0	104.5	90.7	91.8	95.5
Trade and Services								
Retail Sales--Billions of dollars, SA	1,397.1	1,388.3	1,404.9	1,421.4	1,474.2	1,171.5	1,290.0	1,372.5
Consumer Spending On Personal & Business Services	327.2	334.5	344.3	344.5	344.7	297.4	309.6	326.1
Medical Services --Billions of 1982 dollars	238.0	241.3	243.0	245.0	247.3	222.3	230.8	237.8

plunge is still crippling oil and gas exploration and drilling, but projected investment cuts of 7% in mining next year won't be nearly as severe as the more than 25% estimated to be lost this year.

After making substantial additions to capacity over the past decade, electric utilities have realized that growth in demand has failed to keep pace with expectations. Disappointing cost and time overruns of nuclear power plants have further reinforced their caution about planning future capacity additions; the survey results reflect this caution, indicating budget cutbacks of 12.6% in 1987. Gas and other utilities, on the other hand, have preliminary plans to boost their plant and equipment outlays some 24% next year, an unusually strong rise in light of weak customer demand.

In summary, the economy's current lackluster performance and the uncertainty of any improvement next year lend credence to the pessimism shown in McGraw-Hill's latest survey results. Respondents did, however, plan to up capital budgets an additional 0.5% in 1988--but these projections are tentative at this point.

Fortunately, respondents' inflation expectations are probably too high, making the real drop in capital spending less severe than the survey indicates. However, it would require a speedy improvement in foreign trade and a strong start to 1987 to transform the investment outlook before the follow-up survey in March.

TECHNICAL NOTES ON THE SURVEY

Results in this report are based on the responses of 442 firms to a survey taken in September and October. These firms account for 21% of capital spending in the United States (Table 10). Firms supplied dollar estimates of future plant and equipment expenditures (Tables 1 and 5 to 10). Estimates for each year were summed by industry, and percentage changes between years were calculated.

Each industry's percentage change for 1985-86, derived from the sample firms, was then applied to the industry's total capital spending in 1985 in order to estimate the industry's total spending in 1986. The 1986-87 percentage change was applied to the estimated 1986 total to derive the industry's 1987 capital spending. The procedure was the same for 1988. Firms with extreme percent changes in spending (outliers) were removed from the sample. Once each industry's total estimated capital spending was derived, the figures were summed to derive estimates for the various aggregate groupings--durables, nondurables, all manufacturing, all nonmanufacturing and all business.

Data on the actual 1985 capital spending are from the U.S. Department of Commerce. All data presented in this report other than capital spending figures are based on percentage--rather than dollar--answers supplied by the sample firms. Percentage responses were weighted by size of firm within an industry to derive industry figures. Figures for the aggregates were then derived by weighting each industry by size. The weights used were from each industry's 1985 capital spending.

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NOTE: The other durables category listed in the tables includes lumber, furniture, jewelry, toys, and transportation equipment other than autos and aerospace. Other nondurables includes apparel, tobacco, printing and publishing, and leather. The trade and services category includes retail and wholesale trade, banking, holding companies, insurance companies, hotels, laundries, construction companies, and personal and business services. Other transportation consists primarily of trucking companies.

Table I
Plans for Capital Spending

Industry	Level				Percent Change		
	1985	1986	1987	1988	1986	1987	1988
Iron & Steel.....	4.12	3.02	4.12	3.82	-26.7	36.5	-7.4
Nonferrous Metals.....	1.88	1.86	1.99	2.00	-0.9	7.4	0.2
Electrical Machinery....	15.47	13.21	14.35	14.23	-14.6	8.7	-0.9
Non-Electrical Machinery	15.99	14.09	14.89	14.57	-11.9	5.7	-2.2
Autos, Trucks & Parts...	14.63	15.04	14.70	11.77	2.8	-2.3	-19.9
Aerospace.....	3.45	3.77	3.65	3.11	9.1	-3.2	-14.6
Fabricated Metals.....	3.57	3.99	4.03	4.21	11.8	1.0	4.4
Instruments (*2).....	2.61	2.50	2.92	2.73	-4.2	17.0	-6.5
Stone, Clay & Glass.....	3.40	3.42	3.37	3.58	0.4	-1.4	6.3
Other Durables (*2).....	8.15	7.14	6.72	7.20	-12.4	-6.0	7.2
TOTAL DURABLES.....	73.27	68.03	70.75	67.22	-7.2	4.0	-5.0
Chemicals.....	16.45	15.58	15.74	16.26	-5.3	1.0	3.3
Paper & Pulp.....	8.59	7.86	5.97	6.09	-8.4	-24.1	2.0
Rubber & Plastic (*1)...	3.86	4.07	3.92	4.35	5.4	-3.7	10.8
Petroleum.....	26.70	17.95	17.21	17.83	-32.8	-4.1	3.6
Food & Beverage.....	10.33	9.93	9.71	8.91	-3.9	-2.2	-8.2
Textiles.....	1.77	1.69	1.76	1.72	-4.8	4.1	-2.1
Other Nondurables.....	12.51	14.82	16.79	14.38	18.5	13.3	-14.4
TOTAL NONDURABLES.....	80.21	71.89	71.10	69.54	-10.4	-1.1	-2.2
ALL MANUFACTURING.....	153.48	139.92	141.84	136.76	-8.8	1.4	-3.6
Mining.....	15.88	11.81	10.97	11.07	-25.6	-7.1	0.9
Railroads.....	7.08	7.08	5.74	5.90	0.0	-18.9	2.8
Airlines.....	4.79	4.79	4.79	4.79	0.0	0.0	0.0
Other Transportation....	6.15	6.99	6.88	7.44	13.8	-1.5	8.1
Electric Utilities.....	36.11	34.26	29.94	28.71	-5.1	-12.6	-4.1
Gas & Other Utilities...	12.71	11.76	14.63	14.83	-7.4	24.4	1.4
Communications.....	32.03	31.60	29.90	28.83	-1.3	-5.4	-3.6
Trade & Services (*1)...	118.90	125.28	130.28	138.47	5.4	4.0	6.3
ALL NONMANUFACTURING....	233.65	233.58	233.14	240.05	0.0	-0.2	3.0
ALL BUSINESS.....	387.13	373.51	374.98	376.81	-3.5	0.4	0.5

(*1) DRI Estimates.
(*2) Historical data for the instruments series is taken from the Census Bureau's Survey of Manufacturers. Data for 1985 was estimated using the November 1985 McGraw-Hill Survey. The Other Durables category is redefined to have components sum equal total durables.

Table II
Inflation Expectations
(Billions of dollars)

	Expected %Change, 1986-87	
	Plant & Equipment Prices	Product Prices
Iron & Steel.....	4.7	2.2
Nonferrous Metals.....	0.3	2.2
Electrical Machinery....	3.6	2.2
Non-Electrical Machinery	3.5	1.2
Autos, Trucks & Parts...	3.6	4.0
Aerospace.....	3.4	3.0
Fabricated Metals.....	3.9	1.4
Instruments.....	1.9	1.0
Stone, Clay & Glass.....	3.0	1.8
Other Durables.....	3.6	3.4
TOTAL DURABLES.....	3.4	2.2
Chemicals.....	4.4	3.1
Paper & Pulp.....	3.2	3.2
Rubber & Plastic.....	4.5	4.5
Petroleum.....	3.0	8.9
Food & Beverage.....	3.7	1.5
Textiles.....	3.1	1.2
Other Nondurables.....	3.2	1.1
TOTAL NONDURABLES.....	3.4	5.0
ALL MANUFACTURING.....	3.4	3.9
Mining.....	2.2	4.6
Railroads.....	3.9	-0.4
Airlines.....	NA	NA
Other Transportation....	3.5	3.0
Electric Utilities.....	4.7	3.4
Gas & Other Utilities...	3.6	-1.4
Communications.....	2.0	-1.6
Trade & Services.....	4.0	4.8
TOTAL NONMANUFACTURING..	3.8	1.4
ALL BUSINESS.....	3.6	2.6

Table III
Sales Expectations
(Billions of dollars)

Industry	1986 Estimated*	1987 Expected	1986-87 % Change
Iron & Steel.....	52.1	55.2	5.9
Nonferrous Metals.....	60.1	58.6	-2.4
Electrical Machinery....	197.7	220.0	11.3
Non-Electrical Machinery	223.3	234.0	4.8
Autos, Trucks & Parts...	211.5	228.4	8.0
Aerospace.....	94.8	98.3	3.7
Fabricated Metals.....	186.6	217.6	16.6
Instruments.....	62.8	67.4	7.2
Stone, Clay & Glass.....	60.2	64.0	6.4
Other Durables.....	130.8	138.2	5.7
TOTAL DURABLES.....	1,279.9	1,381.8	8.0
Chemicals.....	231.2	249.3	7.8
Paper & Pulp.....	105.8	113.1	6.8
Rubber & Plastic.....	50.8	54.6	7.5
Petroleum.....	182.4	198.7	8.9
Food & Beverage.....	316.7	342.2	8.1
Textiles.....	55.7	60.3	8.2
Other Nondurables.....	192.6	208.0	8.0
TOTAL NONDURABLES.....	1,135.2	1,226.2	8.0
ALL MANUFACTURING.....	2,415.1	2,607.9	8.0
Mining.....	NA	NA	-13.9
Railroads.....	NA	NA	0.0
Airlines.....	NA	NA	4.0
Other Transportation....	NA	NA	8.0
Electric Utilities.....	NA	NA	4.4
Gas Utilities.....	NA	NA	-1.1
Communications.....	NA	NA	9.3
Trade & Services.....	NA	NA	14.9

*Estimates based on spring survey.

Table IV
Real Sales Expectations
(Billions of 1986 dollars)

Industry	1986 Estimated*	1987 Expected	1986-87 % Change
Iron & Steel	52.1	55.2	3.6
Nonferrous Metals	60.1	58.6	-4.5
Electrical Machinery	197.7	220.0	8.9
Non-Electrical Machinery	223.3	234.0	3.6
Autos, Trucks & Parts	211.5	228.4	3.8
Aerospace	94.8	98.3	0.7
Fabricated Metals	186.6	217.6	15.0
Instruments	62.8	67.4	6.1
Stone, Clay & Glass	60.2	64.0	4.5
Other Durables	130.8	138.2	2.2
TOTAL DURABLES	1,279.9	1,381.8	5.5
Chemicals	231.2	249.3	4.6
Paper & Pulp	105.8	113.1	3.5
Rubber & Plastic	50.8	54.6	2.9
Petroleum	182.4	198.7	0.1
Food & Beverage	316.7	342.2	6.5
Textiles	55.7	60.3	7.0
Other Nondurables	192.6	208.0	6.9
TOTAL NONDURABLES	1,135.2	1,226.2	4.7
ALL MANUFACTURING	2,415.1	2,607.9	5.2
Mining	NA	NA	-18.5
Railroads	NA	NA	0.4
Airlines	NA	NA	NA
Other Transportation	NA	NA	5.0
Electric Utilities	NA	NA	0.9
Gas Utilities	NA	NA	0.3
Communications	NA	NA	10.8
Trade & Services	NA	NA	10.0

*Estimates based on spring survey.

Table V
Capital Spending Plans of the Petroleum Industry
(Millions of dollars)

Function	Level				Percent Change		
	1985	1986	1987	1988	1986	1987	1988
Exploration and Production	33,045	19,775	17,854	17,623	-40.2	-9.7	-1.3
Refining	3,376	2,478	2,650	2,610	-26.6	7.0	-1.5
Petrochemicals	940	861	863	935	-8.4	0.2	8.3
Transportation (*1)	3,795	3,815	2,560	2,255	0.5	-32.9	-11.9
Marketing	3,667	3,526	3,878	3,923	-3.8	10.0	1.2
Other (*2)	4,442	4,074	4,568	2,930	-8.3	12.1	-35.9
TOTAL	49,265	34,529	32,372	30,276	-29.9	-6.2	-6.5

(*1) Includes oil pipelines; does not include gas pipelines.
(*2) Includes coal mining.

Table VI
Capital Spending Plans of the Mining Industry
(Millions of dollars)

Industry	Level				Percent Change		
	1985	1986	1987	1988	1986	1987	1988
Nonmetallic....	867	1,067	1,041	1,084	23.1	-2.5	4.1
Nonferrous.....	1,231	865	795	794	-29.7	-8.1	-0.1
Iron Ore.....	75	101	150	169	34.3	48.9	12.9
Coal.....	3,349	3,361	4,059	4,334	0.4	20.8	6.8
MINING INDUSTRY	5,522	5,394	6,046	6,382	-2.3	12.1	5.6

Table VII
Capital Spending in the Chemical Process Industry
(Billions of dollars)

Industry	1985	1986	1987	1988
Chemicals.....	16.45	15.58	15.74	16.26
Petrochemicals (*1)	0.94	0.86	0.86	0.93
Paper & Pulp.....	8.59	7.86	5.97	6.09
Rubber & Plastics..	3.86	4.07	3.92	4.35
Stone, Clay & Glass	3.40	3.42	3.37	3.58
Petroleum Refining.	3.38	2.48	2.65	2.61
Nonferrous Metals..	1.88	1.86	1.99	2.00
Coal Products.....	0.78	0.78	0.95	1.01
Food & Beverage....	2.79	2.68	2.62	2.41
Textiles.....	0.35	0.34	0.35	0.34
Other CPI.....	1.29	1.53	1.73	1.47
Total CPI.....	43.70	41.45	40.16	41.05

(*1) Petrochemical expenditures are for the petroleum industry alone.

Table VIII
Capital Spending Plans for the Energy Industries
(Billions of dollars)

Industry	1985	1986	1987	1988
Coal Mining*.....	3,349	3,361	4,059	4,334
Electric Utilities.....	36,113	34,260	29,942	28,712
Gas Utilities.....	12,708	11,765	14,632	14,835
Petroleum Industry.....	49,265	34,529	32,372	30,276
Exploration & Production	33,045	19,775	17,854	17,623
Transportation.....	3,795	3,815	2,560	2,255
Refining.....	3,376	2,478	2,650	2,610
Petrochemicals.....	940	861	863	935
Marketing.....	3,667	3,526	3,878	3,923
Other*.....	4,442	4,074	4,568	2,930
Total Energy Industries...	101,434	83,916	81,006	78,156
Total All Industries.....	387,133	373,518	374,997	376,684
Energy Share (%).....	26	22	22	21

*There is some duplication of investment in other petroleum and coal mining.

Table IX
Detailed Industry Data from November Survey

Industry	Capital Spending % Change 1986	1987	1988
Coal Mining	20.8	-0.8	-38.9
Oil & Gas Extraction	-62.7	-34.7	2.8
Oil Well Services	-61.1	-32.7	4.3
General Building Contractors	-41.0	200.0	-46.7
Heavy Construction Contractors	0.0	13.1	5.6
Meat Products	7.4	25.0	NC
Bakery Products	0.0	-12.5	-7.1
Beverages	-14.3	15.6	-11.8
Tobacco	12.9	20.9	-12.8
Weaving Mills, Cotton	-48.1	-13.3	0.0
Knitting Mills	-8.4	6.3	-8.3
Apparel	19.9	2.7	4.4
Lumber	7.0	-11.8	4.1
Furniture	-45.0	-28.6	17.1
Converted Paper Prod	-36.1	-20.0	25.0
Printing and Publishing	22.1	3.1	-20.0
Industrial Inorganic Chemicals	-5.3	-6.1	7.9
Drugs	4.5	-3.3	-0.5
Soap, Cleaners, & Toilet Goods	-67.8	NC	34.1
Paints	-0.3	15.8	4.5
Agricultural Chemicals	-24.8	69.3	42.4
Misc. Chemicals	-30.3	39.9	-31.3
Leather	-74.5	50.4	-33.5
Products of Purchased Glass	0.3	8.8	6.5
Cement, Hydraulic	0.1	7.0	-18.1
Structural Clay Products	0.0	-10.6	6.3
Concrete, Gypsum, Plaster	39.9	-46.1	16.7
Iron & Steel	-26.7	36.3	-7.5
Primary Nonferrous Metals	-1.0	4.0	0.3
Nonferrous Rolling and Drawing	-29.0	136.9	-3.1
Cutlery, Hand Tools, Hardware	10.5	-23.9	-22.3
Fabricated Structural Metal	63.2	-47.6	-28.0
Screw Machine Products	5.7	0.0	0.0
Misc. Fabricated Metals	45.2	36.2	0.0
Engines and Turbines	50.0	-4.8	10.0
Farm Equipment	-30.1	-31.1	6.0
Construction, Mining, Materials Handling Eq.	-13.8	-36.0	12.5
Metalworking Machinery	10.4	6.6	10.1
Special Industry Machinery	197.9	70.2	5.8
General Industrial Machinery	26.5	-9.6	0.0
Office, Computing Machinery	-12.7	16.6	-6.7

Table IX (conttinued)

Industry	Capital Spending % Change		
	1986	1987	1988
Refrigeration and Service Industry Machinery	-20.8	-11.7	11.2
Electric Distributing Equipment	-18.3	9.3	0.2
Electrical Industrial Apparatus	-34.5	50.9	8.6
Household Appliances	34.4	28.0	-21.9
Electric Lighting and Wiring	-12.0	54.6	NC
Communication Equipment	-0.4	-5.1	3.0
Electronic Components	-33.5	35.6	-3.4
Misc. Electrical	-46.5	9.2	18.8
Engineering & Scientific Instruments	13.1	-15.2	1.3
Optical Instruments and Lenses	-70.0	99.3	0.0
Medical Instruments and Supplies	10.1	36.5	-16.0
Miscellaneous Manufacturing	2.4	9.1	13.6
Trucking and Warehousing	18.0	-2.1	8.5
Communications	-1.6	-5.4	-3.4
Telephone Communications	-1.1	-6.5	-4.5
Electric Utilities	-4.2	-13.2	-4.3
Gas Utilities	-7.4	21.7	1.3
Retail and Whole. Trade	4.2	16.2	13.5
Hardware, Plumbing Eq.--Whole	-11.0	11.9	4.8
Food Stores	35.6	21.2	24.6
Finance	24.3	2.7	6.4
Insurance Carriers	4.2	4.7	-10.2
Personal & Business Services	-5.8	8.1	40.9
Hotels and Motels	-30.0	-59.1	1.4
Business Services	11.3	-40.0	2.8
Computer and Data Processing Services	-31.2	-52.9	46.3
Miscellaneous Business Services	9.6	-41.7	9.1
Amusement & Recreations Services	-26.2	1.3	-21.5
Health Services	-6.6	6.5	-3.9
Educational Services	71.1	-39.9	-19.1
Miscellaneous Professional Services	26.2	19.5	28.3

Table X
Survey Sample Size

Industry	Percentage of Capital Spending Covered by Survey
Iron & Steel	5.9
Nonferrous Metals	31.0
Electrical Machinery	24.2
Non-Electrical Machinery	10.5
Autos, Trucks & Parts	80.4
Aerospace	42.6
Fabricated Metals	2.4
Instruments	27.3
Stone, Clay & Glass	12.6
Other Durables	0.9
TOTAL DURABLES	28.4
Chemicals	20.2
Paper & Pulp	24.1
Rubber & Plastic	0.2
Petroleum	64.3
Food & Beverage	1.3
Textiles	5.6
Other Nondurables	6.8
TOTAL NONDURABLES	29.5
ALL MANUFACTURING	28.9
Mining	3.4
Railroads	57.6
Airlines	3.3
Other Transportation	11.2
Electric Utilities	47.7
Gas Utilities	7.7
Communications	27.9
Trade & Services	2.3
TOTAL NONMANUFACTURING	15.1
ALL BUSINESS	20.6

CONFIDENTIAL NO. G _____

GENERAL

Data Resources
24 Hartwell Avenue
Lexington, Massachusetts 02173

PRELIMINARY SURVEY OF BUSINESS' PLANS FOR NEW PLANTS & EQUIPMENT 1986-88

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only. The survey applies to non-manufacturing as well as manufacturing companies, and covers expenditures in areas such as computers, office furniture, office construction and oil well drilling as well as industrial purchases of items like machine tools.

1. How much did your company spend on plant and equipment in the United States in 1985 and how much does it plan to spend (including inflation) in 1986, 1987, and 1988? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. If your company has merged with another since 1985, please report spending on a comparable basis for all years.)

1985	1986	1987	1988
$	$	$	$

If the answers above omit 000s or 000,000s please indicate: _____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) in 1987 vs. 1986? _____%

If company policy prevents you from answering the following questions, please skip them and return the questionnaire.

3. By what percent does your company expect its sales, in dollar terms, to increase, (decrease) in 1987 vs. 1986? _____%

4. By what percent, on average, do you expect the prices your company charges for its products or services to increase (decrease) in 1987 vs. 1986? _____%

NAME_____ TITLE_____

COMPANY_____

ADDRESS_____

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AUTO

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PRELIMINARY SURVEY OF BUSINESS' PLANS FOR NEW PLANTS & EQUIPMENT 1986-88

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1985 and how much does it plan to spend (including inflation) in 1986, 1987, and 1988? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. Include special tools. If your company has merged with another since 1985, please report spending on a comparable basis for all years.)

1985	1986	1987	1988
$	$	$	$

If the answers above omit 000s or 000,000s please indicate: _____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) in 1987 vs. 1986? _____%

If company policy prevents you from answering the following questions, please skip them and return the questionnaire.

3. By what percent does your company expect its sales, in dollar terms, to increase, (decrease) in 1987 vs. 1986? _____%

4. By what percent, on average, do you expect the prices your company charges for its products or services to increase (decrease) in 1987 vs. 1986? _____%

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COMPANY_____

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CHEMICALS

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24 Hartwell Avenue
Lexington, Massachusetts 02173

PRELIMINARY SURVEY OF BUSINESS' PLANS FOR NEW PLANTS & EQUIPMENT 1986-88

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1985 and how much does it plan to spend (including inflation) in 1986, 1987, and 1988? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. If your company has merged with another since 1985, please report spending on a comparable basis for all years.)

1985	1986	1987	1988
$	$	$	$

a. Please indicate the division between:

	1985	1986	1987	1988
Manufacturing	$_____	$_____	$_____	$_____
Nonmetallic Mining	$_____	$_____	$_____	$_____
Other (Please Specify)	$_____	$_____	$_____	$_____

If the answers above omit 000s or 000,000s please indicate: _____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) in 1987 vs. 1986? _____%

If company policy prevents you from answering the following questions, please skip them and return the questionnaire.

3. By what percent does your company expect its sales, in dollar terms, to increase, (decrease) in 1987 vs. 1986? _____%

4. By what percent, on average, do you expect the prices your company charges for its products or services to increase (decrease) in 1987 vs. 1986? _____%

NAME_____ TITLE_____

COMPANY_____

ADDRESS_____

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CONFIDENTIAL NO. IC_____

IRON & STEEL

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24 Hartwell Avenue
Lexington, Massachusetts 02173

PRELIMINARY SURVEY OF BUSINESS' PLANS FOR NEW PLANTS & EQUIPMENT 1986-88

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1985 and how much does it plan to spend (including inflation) in 1986, 1987, and 1988? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. If your company has merged with another since 1985, please report spending on a comparable basis for all years.)

1985	1986	1987	1988
$	$	$	$

a. If your operations include both manufacturing and mining, how much is for each of the following? (Under iron mining, please include beneficiation.)

	1985	1986	1987	1988
Manufacturing	$_____	$_____	$_____	$_____
Iron Mining	$_____	$_____	$_____	$_____
Coal Mining	$_____	$_____	$_____	$_____
Nonmetallic Mining	$_____	$_____	$_____	$_____
Other (Please Specify)	$_____	$_____	$_____	$_____

If the answers above omit 000s or 000,000s please indicate: _____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) in 1987 vs. 1986? _____%

If company policy prevents you from answering the following questions, please skip them and return the questionnaire.

3. By what percent does your company expect its sales, in dollar terms, to increase, (decrease) in 1987 vs. 1986? _____%

4. By what percent, on average, do you expect the prices your company charges for its products or services to increase (decrease) in 1987 vs. 1986? _____%

NAME_____TITLE_____

COMPANY_____

ADDRESS_____

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MINING

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24 Hartwell Avenue
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PRELIMINARY SURVEY OF BUSINESS' PLANS FOR NEW PLANTS & EQUIPMENT 1986-88

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1985 and how much does it plan to spend (including inflation) in 1986, 1987, and 1988? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. If your company has merged with another since 1985, please report spending on a comparable basis for all years.)

1985	1986	1987	1988
$	$	$	$

a. If your operations include both manufacturing and mining, how much is for each of the following? (Under mining, please include all mineral processing.)

	1985	1986	1987	1988
Manufacturing	$_____	$_____	$_____	$_____
Nonmetallic Mining	$_____	$_____	$_____	$_____
Nonferrous Mining	$_____	$_____	$_____	$_____
Other (Please Specify)	$_____	$_____	$_____	$_____

If the answers above omit 000s or 000,000s please indicate: _____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) in 1987 vs. 1986? _____%

If company policy prevents you from answering the following questions, please skip them and return the questionnaire.

3. By what percent does your company expect its sales, in dollar terms, to increase, (decrease) in 1987 vs. 1986? _____%

4. By what percent, on average, do you expect the prices your company charges for its products or services to increase (decrease) in 1987 vs. 1986? _____%

NAME_____TITLE_____
COMPANY_____
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CONFIDENTIAL

NO. N_____
NONFERROUS METALS

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24 Hartwell Avenue
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PRELIMINARY SURVEY OF BUSINESS' PLANS FOR NEW PLANTS & EQUIPMENT 1986-88

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1985 and how much does it plan to spend (including inflation) in 1986, 1987, and 1988? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. If your company has merged with another since 1985, please report spending on a comparable basis for all years.)

1985	1986	1987	1988
$	$	$	$

a. If your operations include both manufacturing and mining, how much is for each of the following? (Under mining, please include all operations including smelting and refining.)

	1985	1986	1987	1988
Manufacturing	$_____	$_____	$_____	$_____
Nonferrous Mining	$_____	$_____	$_____	$_____
Coal Mining	$_____	$_____	$_____	$_____
Nonmetallic Mining	$_____	$_____	$_____	$_____
Other (Please Specify)	$_____	$_____	$_____	$_____

If the answers above omit 000s or 000,000s please indicate: _____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) in 1987 vs. 1986? _____%

If company policy prevents you from answering the following questions, please skip them and return the questionnaire.

3. By what percent does your company expect its sales, in dollar terms, to increase, (decrease) in 1987 vs. 1986? _____%

4. By what percent, on average, do you expect the prices your company charges for its products or services to increase (decrease) in 1987 vs. 1986? _____%

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COMPANY_____
ADDRESS_____

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NO. P_____
PETROLEUM

Data Resources
24 Hartwell Avenue
Lexington, Massachusetts 02173

PRELIMINARY SURVEY OF BUSINESS' PLANS FOR NEW PLANTS & EQUIPMENT 1986-88

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1985 and how much does it plan to spend (including inflation) in 1986, 1987, and 1988? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. If your company has merged with another since 1985, please report spending on a comparable basis for all years.)

1985	1986	1987	1988
$	$	$	$

a. Please indicate the division between:

	1985	1986	1987	1988
Exploration & Prod.	$_____	$_____	$_____	$_____
Refining	$_____	$_____	$_____	$_____
Petrochemicals	$_____	$_____	$_____	$_____
Transportation	$_____	$_____	$_____	$_____
Marketing	$_____	$_____	$_____	$_____
Coal Mining	$_____	$_____	$_____	$_____
Other (Please Specify)	$_____	$_____	$_____	$_____

If the answers above omit 000s or 000,000s please indicate: _____

b. How many net wells (i.e., sum of financial interest of gross wells in which you participate) did (will) you drill in 1985-87 in search of oil and gas?
1985_____
1986_____
1987_____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) in 1987 vs. 1986? _____%

If company policy prevents you from answering the following questions, please skip them and return the questionnaire.

3. By what percent does your company expect its sales, in dollar terms, to increase, (decrease) in 1987 vs. 1986? _____%

4. By what percent, on average, do you expect the prices your company charges for its products or services to increase (decrease) in 1987 vs. 1986? _____%

NAME_____TITLE_____
COMPANY_____
ADDRESS_____

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C5805-1.2-V

DRI Data Resources

24 Hartwell Avenue
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March 1987

McGRAW-HILL/DRI
ANNUAL CAPITAL SPENDING CHECKUP SURVEY

The stubborn pessimism that gripped capital spending plans for 1987 only six months ago seems to be losing its hold. Although it is too soon to call this emerging trend a midstream reversal, McGraw-Hill's latest survey of American businesses found capital spending plans for the current year more optimistic than the November 1986 tally.

According to the Capital Spending Checkup Survey conducted in January and February, plant and equipment investment in the United States is slated to rise 2.0%, to $383.7 billion (Table I*). Respondents to McGraw-Hill's fall survey revealed a negligible budget increase of only 0.4%, to $375.0 billion. The corporate outlook for inflation remains unchanged, however: both the fall and spring surveys show anticipated gains of 3.6% in the price of capital goods.

Combined, the upward revision of capital budgets and expectations of static inflation enhance "real" capital investment projections for 1987. If respondents' assumptions hold true for the remainder of the year, real spending will slip only 1.5% (Table II). In contrast, the previous survey projected a real investment cut of 3.1%.

The survey found wide disparity in the capital spending plans of the three major business sectors. Durables manufacturers, the most beleaguered sector last year, anticipate no change in 1987. Electrical and nonelectrical machinery manufacturers plan modest increases, while the automotive industry is contemplating deep cuts. Coming off a strong 1986 performance, nondurables manufacturers project an optimistic 5.6% boost in spending; the vibrant chemical, food, and textile industries lead this charge. Cautious by comparison, the nonmanufacturing sector plans to up investment only 1.4%. Here, the trade and service industries expect to increase outlays, while electric utilities predict severe reductions.

*Tables denoted by Roman numerals appear at the end of this report.

Chart 1
Real Plant and Equipment Purchases
(Percent change)

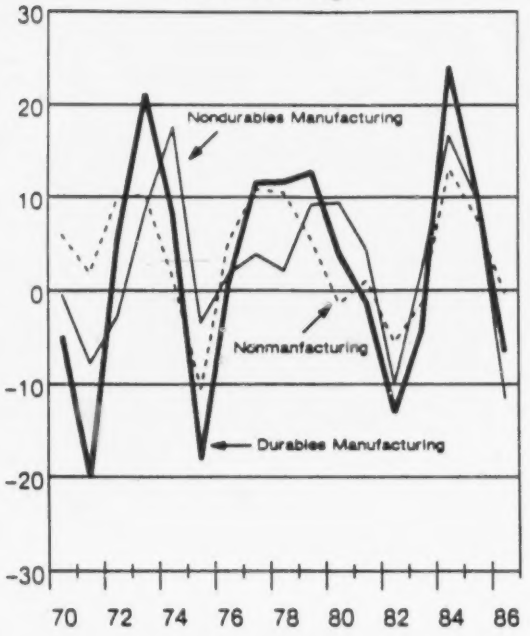
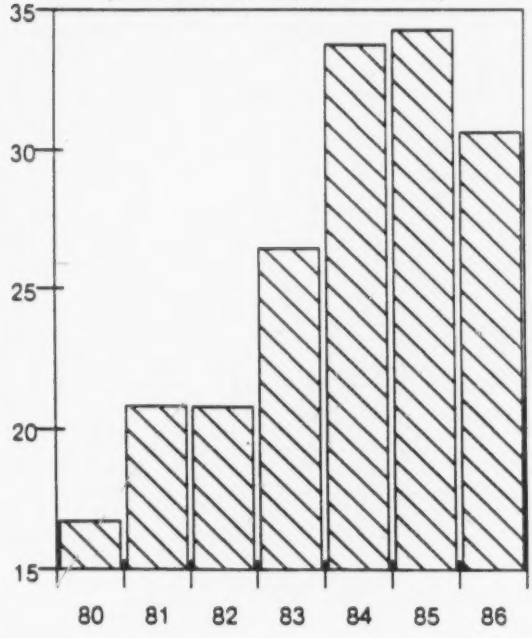


Chart 2
Purchases of Computers and Office Machinery
(Billions of dollars, NIPA basis)



These are the major findings of McGraw-Hill's Capital Spending Checkup Survey. The survey drew responses from 537 companies that account for 21% of plant and equipment spending in the United States (Table IX). Figures in this report have been adjusted to represent spending by all U.S. companies and reflect domestic investment only.

FUND ALLOCATIONS

In addition to asking for total capital spending plans, this survey also requested a breakdown of fund allocations among broad categories of plant and equipment. These categories are computers and other office equipment (Table III), manufacturing or other machinery (Table IV), autos and trucks (Table V), factories or non-office facilities (Table VI), and office buildings (Table VII). (Spending not included in any of these categories was listed as "other" and is not reported separately. A full set of questionnaires appears at the end of this report.)

If respondents stick to their plans, the ailing U.S. computer industry could see a marked improvement in its 1987 sales figures: surveyed companies expect to spend 27.9% more on computers and office equipment this year than in 1986, raising their spending to more than $40 billion. As a result, the amount

Table 1
Capital Equipment Spending
(Billions of 1982 dollars)

	Quarterly					Annual		
	85:4	86:1	86:2	86:3	86:4	1984	1985	1986
Total Equipment	324.5	309.7	323.9	324.9	328.8	280.9	309.0	321.8
Information Processing & Related Eq.	119.2	106.8	116.3	118.8	124.1	98.4	111.5	116.5
Office & Computing Machinery	61.7	51.7	61.6	61.1	64.4	46.4	55.9	59.7
Communication Equipment	33.3	31.1	31.2	34.1	35.2	29.7	31.7	32.9
Scientific & Engineering Inst.	12.4	11.7	11.9	11.6	12.0	10.6	11.9	11.8
Photocopy & Related Equipment	11.8	12.3	11.6	12.0	12.6	11.8	11.9	12.1
Industrial Equipment	54.1	53.3	54.7	53.8	55.4	49.1	52.1	54.3
Fabricated Metals	9.9	9.5	9.6	9.5	9.5	8.0	9.6	9.5
Metalworking Machinery	15.2	14.8	14.5	14.0	14.9	13.7	14.4	14.6
Special Industrial Eq.	12.4	12.4	13.1	13.7	14.1	11.6	12.1	13.3
General Industrial Eq.	16.6	16.6	17.4	16.7	17.0	15.7	16.1	16.9
Transportation Equipment	72.4	70.4	73.4	74.7	70.8	61.1	69.3	72.3
Trucks, Buses & Trailers	30.9	26.1	28.0	28.7	27.1	27.4	29.0	27.5
Autos	22.5	23.7	25.1	25.4	23.7	21.9	24.1	24.5
Aircraft	15.8	17.8	17.5	17.3	16.7	8.5	12.8	17.3
Ships & Boats	1.5	1.3	1.2	1.4	1.5	1.8	1.7	1.4
Railroad Equipment	1.7	1.5	1.6	1.9	1.6	1.5	1.7	1.7
Energy and Related Eq.	18.8	18.2	16.8	16.8	17.8	17.3	17.8	17.4
Engines & Turbines	2.1	2.3	1.6	1.5	2.3	1.6	1.9	1.9
Electrical Trans. & Dist. Eq.	12.8	12.3	12.2	12.6	13.0	11.7	12.1	12.5
Mining & Oilfield Machinery	3.9	3.6	3.0	2.6	2.4	4.0	3.8	2.9
Miscellaneous Equipment	61.9	62.9	64.7	62.7	62.7	56.4	60.3	63.2
Furniture & Fixtures	14.2	13.8	13.7	14.2	14.6	12.5	13.8	14.1
Tractors	6.1	6.1	6.3	5.9	5.6	6.0	5.9	6.0
Agricultural Machinery	7.1	6.7	6.9	6.2	5.9	6.5	6.7	6.4
Construction Machinery	11.7	12.7	13.1	11.2	11.1	8.5	10.6	12.0
Service Industry Machinery	6.7	6.6	6.8	6.7	6.9	7.3	7.1	6.8
Electrical Equipment, n.e.c.	7.9	7.5	8.1	8.7	9.5	7.1	7.4	8.5
Other Equipment	8.2	9.4	9.8	9.7	9.1	8.6	8.7	9.5
	Annual Rates of Change							
Total Equipment	18.8	-17.0	19.7	1.2	4.9	20.1	10.1	4.1
Information Processing & Related Eq.	27.8	-35.5	40.5	9.1	19.1	25.7	13.4	4.5
Office & Computing Machinery	43.2	-50.8	101.2	-2.9	23.0	43.7	20.5	6.8
Communication Equipment	22.3	-24.1	1.9	41.3	13.8	10.6	6.8	3.7
Scientific & Engineering Inst.	14.0	-19.0	4.8	-7.4	11.6	4.6	13.9	-1.3
Photocopy & Related Equipment	-8.3	18.7	-20.7	14.9	21.9	29.7	1.4	1.7
Industrial Equipment	25.5	-5.3	10.3	-5.9	12.0	14.7	6.2	4.2
Fabricated Metals	8.2	-13.3	2.2	-4.0	-1.0	-4.5	19.4	-0.6
Metalworking Machinery	34.3	-9.8	-6.4	-14.2	27.4	22.6	4.5	1.4
Special Industrial Eq.	31.4	-0.4	25.9	18.3	12.0	10.8	4.1	10.0
General Industrial Eq.	24.9	0.2	20.2	-16.1	7.4	23.8	2.3	5.1
Transportation Equipment	0.8	-10.6	18.2	7.4	-19.7	24.3	13.4	4.4
Trucks, Buses & Trailers	45.8	-49.0	32.5	10.6	-20.6	47.3	5.6	-5.0
Autos	-51.5	23.9	24.5	6.0	-24.0	22.0	10.1	1.6
Aircraft	85.2	58.6	-6.0	-5.3	-11.7	-9.0	51.7	35.2
Ships & Boats	-43.7	-43.9	-19.4	56.4	35.3	-17.3	-5.3	-21.3
Railroad Equipment	-37.3	-37.4	33.5	112.0	-46.6	38.9	12.0	-2.1
Energy and Related Eq.	5.7	-12.1	-27.3	-1.1	26.6	11.4	2.8	-2.4
Engines & Turbines	160.1	38.3	-73.7	-19.1	399.7	12.2	14.5	4.3
Electrical Trans. & Dist. Eq.	-4.3	-13.2	-3.8	12.8	14.7	16.4	3.1	3.5
Mining & Oilfield Machinery	-4.6	-29.7	-53.6	-38.1	-25.5	-1.5	-2.9	-24.3
Miscellaneous Equipment	24.4	6.1	12.4	-12.1	0.3	13.7	6.8	5.0
Furniture & Fixtures	13.4	-11.1	-0.8	13.2	11.7	13.7	11.1	1.6
Tractors	25.1	3.7	7.6	-19.5	-18.8	16.4	-0.5	0.9
Agricultural Machinery	41.9	-21.3	12.4	-32.7	-22.9	0.1	3.4	-4.3
Construction Machinery	87.6	36.8	15.5	-46.5	-3.1	29.8	23.6	14.1
Service Industry Machinery	-8.0	-5.3	15.5	-5.9	7.2	18.3	-2.3	-5.2
Electrical Equipment, n.e.c.	31.0	-18.3	30.5	35.0	43.6	17.5	4.3	14.8
Other Equipment	-7.5	74.4	15.8	-4.9	-19.7	3.9	1.1	8.9

spent on computer and office equipment would rise from 6.2% to 10.6% of total capital spending. Because spending in this category plunged dramatically in 1986, however (more than 28%, according to survey responses), the 1987 outlook is more a partial recovery than a boom. Nonetheless, the survey results are encouraging.

Investment in machinery, by far the largest chunk of capital spending by all industries, should suffer slightly; respondents foresee a 3.1% drop. Surprisingly, much of the cut falls to the nonmanufacturing sector, with greatest single reduction in equipment spending shown in trade and services, at 22.8%. In contrast--and in spite of large cuts by petroleum refiners and the troubled autos, trucks, and parts industry--manufacturing industries overall expect a marginal increase in outlays for machinery.

Although not unexpected, the falloff in spending on autos and trucks is nevertheless dramatic, dropping some 24.4% this year. Tax reform's elimination of the investment tax credit and lengthening of depreciation lifetimes, along with the dealer incentive programs of last fall, predictably led many companies to advance purchases into 1986. Furthermore, the steady increase in business spending on autos and trucks in 1983-86 presaged a necessary downturn in 1987.

Chart 3
Purchases of Automobiles, Trucks, and Buses
(Billions of dollars, NIPA basis)

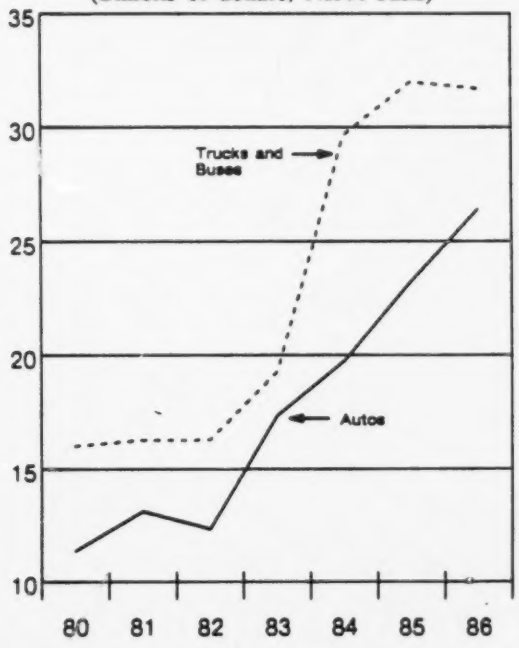
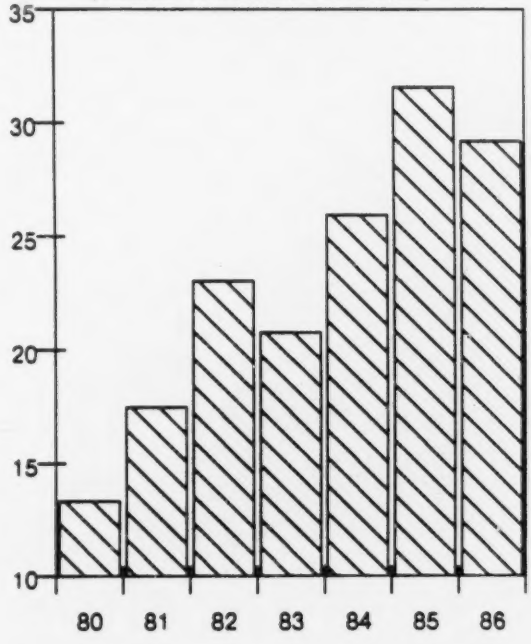


Chart 4
Investment in Office Structures
(Billions of dollars, NIPA basis)



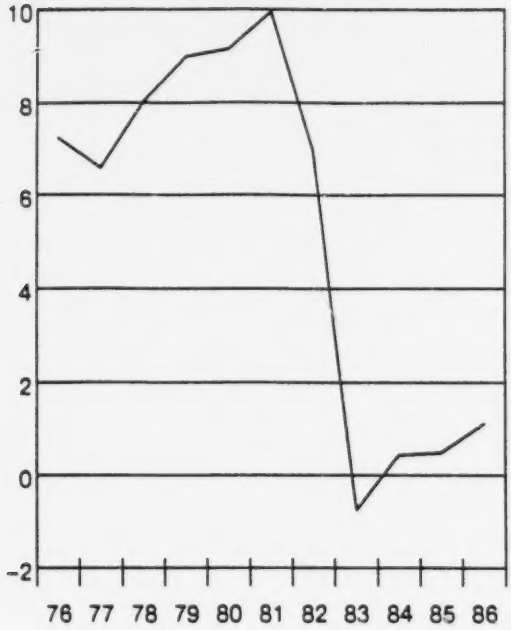
While the survey results show a planned increase of 3.8% for factory or non-office construction in 1987, this figure is inflated by a more than $7 billion jump in the trade and services industries for warehouse and retail space. These industries probably represent the healthiest sector of the economy and look forward to further growth in the year ahead. Excluding trade and services, investment in factory and non-office construction shows a more realistic 9.7% drop. Indeed, manufacturers were using less than 80% of existing capacity by the end of 1986; much excess space awaits new orders. A robust reversal of the merchandise trade balance in 1987 could boost utilization rates, however, making factory additions a possibility.

With the national vacancy rate hovering at 20%, respondents' intention to increase expenditures on office construction some 47% in 1987 is baffling at first glance. A closer look at the 1986 data, however, reveals a deep cut in overall construction in that year, which left the dollar level a shadow of its former self. In

Table 2
Nonresidential Construction
(Billions of 1982 dollars)

	Quarterly					Annual		
	85:4	86:1	86:2	86:3	86:4	1984	1985	1986
	Billions of 1982 dollars							
Total Structures	152.40	148.09	132.89	129.49	127.07	141.30	152.18	134.38
Buildings & Other	91.44	91.30	83.71	83.66	80.70	79.00	89.66	84.84
Offices	28.06	27.68	25.47	24.34	23.21	23.81	28.13	25.18
Stores & Warehouses	26.31	27.45	24.60	26.06	24.10	20.34	24.98	25.55
Industrial	14.21	13.26	11.88	11.10	11.15	12.63	14.05	11.85
Institutional	8.58	8.86	8.92	9.06	9.36	9.05	8.61	9.05
Educational	1.64	1.84	1.79	1.74	2.15	1.30	1.49	1.88
Religious	2.25	2.28	2.22	2.39	2.30	1.96	2.14	2.30
Hospitals	4.68	4.75	4.91	4.94	4.91	5.79	4.98	4.98
All Other	14.29	14.05	12.83	13.09	12.88	13.16	13.90	13.21
Public Utilities	27.10	27.86	27.21	26.74	26.08	23.50	26.41	26.97
Telephone & Telegraph	6.53	6.84	6.06	6.65	6.61	6.70	6.91	6.77
Mining & Petroleum	33.86	28.93	21.97	19.10	20.28	38.80	36.12	22.57
	Annual Rates of Change							
Total Structures	0.3	-10.8	-35.2	-9.8	-7.3	11.1	7.7	-11.7
Buildings & Other	10.7	-0.6	-29.4	-0.2	-13.4	16.3	13.5	-5.4
Offices	-0.1	-5.3	-28.2	-16.6	-17.3	19.0	18.1	-10.5
Stores & Warehouses	29.6	18.6	-35.6	26.0	-26.8	40.7	22.8	2.3
Industrial	9.1	-24.2	-35.5	-23.8	1.6	1.8	11.2	-15.7
Institutional	-11.3	14.0	2.4	6.8	13.9	-3.7	-4.8	5.1
Educational	28.6	55.9	-9.4	-11.9	138.0	-4.6	14.9	26.0
Religious	-12.1	4.3	-9.8	34.6	-14.4	14.3	9.4	7.1
Hospitals	-21.2	6.0	13.8	2.6	-2.3	-8.3	-14.1	-2.0
All Other	18.9	-6.4	-30.4	8.2	-6.4	13.1	5.6	-4.9
Public Utilities	-0.6	11.6	-9.0	-6.8	-9.5	-5.2	12.4	2.1
Telephone & Telegraph	-18.0	20.3	7.5	-17.0	-2.1	9.2	3.2	-2.1
Mining & Petroleum	-21.7	-46.7	-66.7	-42.9	27.3	12.3	-6.9	-37.5

Chart 5
Plant and Equipment Price Inflation



March 1985, survey respondents planned to earmark roughly 7% of their capital budget for office construction; the latest survey reveals a weaker 4.9% share of total spending in 1987. Therefore, the large percentage jump from 1986 to 1987 translates into a less daunting dollar increase when compared with historical spending levels.

Cause for optimism resides in respondents' outlook for inflation. Ironically, this is because U.S. businesses are consistently pessimistic. Despite several years of very low price increases for capital goods, inflation expectations recorded in McGraw-Hill surveys remain stubbornly high. While the checkup survey results in 1985 and 1986 estimated plant and equipment price increases of 4.9% and 4.3%, respectively, the actual figure settled in below 2% both times. Business continues to be cynical, though less so, estimating capital goods inflation at 3.6% in this March 1987 survey; DRI estimates inflation near 2% for the current year. Consequently, if respondents stick to their capital spending budgets but overshoot the inflation rate yet again, real investment in plant and equipment could show no slippage for the year.

INDUSTRY DETAIL

Hammered by fierce overseas competition and weakened by softer domestic demand, durable manufacturers plan no significant change in capital outlays for 1987. Electrical equipment makers did better than others in 1986, however, with sales rising 6.2% and new orders climbing 5.3%. Operating with ample excess capacity, they plan to increase capital spending a cautious 1.1% in 1987 after cutting nearly 10% from last year's budget. Electronic component, electrical industrial apparatus, and lighting and wiring producers all plan significant capital increases; makers of electric distributing equipment anticipate deep cuts, no doubt influenced by the severe retrenchment within the electric utility industry.

Last year was difficult for nonelectrical machinery makers, especially for farm and construction equipment industries and computer manufacturers. Saddled with overcapacity as well as lower sales and new orders in 1986, the 1.7% investment increase projected for this year seems slightly optimistic. Budget cuts of 15% in 1986 probably stalled replacement and modernization needs, however, which can no longer be deferred. Computer and office equipment manufacturers plan a 1.8% capital increase this year. Having no illusions about the troubles plaguing their customers, makers of construction and mining equipment anticipate a spending cut of nearly 44%. Refrigeration and service industry machinery makers are more sanguine, planning an increase of more than 52%.

The news for the automotive industry is now well known: intensive foreign competition has left Detroit with overcapacity and excess inventories in spite of regular dealer incentives, while tax reform helped 1986 sales at the expense of 1987 prospects. There is, however, an additional reason for the capital cuts of 8.4% this year: huge investment increases over the last few years (54% in 1984 and 31% in 1985), spurred largely by the completion of foreign-owned facilities, necessitated a spending retrenchment this year and last.

On the other hand, 1986 was generally a good year for nondurable manufacturers, especially with foreign trade. Deep investment cuts in this sector have been more than countered by some ambitious spending plans. After extensive restructuring in the chemical industry during 1985, a robust trade surplus and sweeter profit margins (lower oil costs and recent price increases) have given it a boost. Investment increases of more than 10%, as respondents indicated, are not without justification.

Petroleum refiners are less upbeat, although the mere 0.5% capital spending decline slated for 1987 is somewhat promising. The recent uptick in crude oil prices could stabilize spending plans, although excess

oil stocks should pull down last year's high utilization rates over the coming months. Also, continued plant additions worldwide will slow longer-term investment in the United States.

Table 3
Durable Indicators
(Billions of dollars*)

	Quarterly					Annual		
	85:4	86:1	86:2	86:3	86:4	1984	1985	1986
Iron & Steel								
Capacity Utilization Rate (%)	70.0	66.7	60.0	60.3	62.5	67.2	67.5	62.4
Shipments	52.1	49.4	48.3	46.5	45.4	53.8	52.6	47.4
New Orders	52.6	51.4	44.7	49.5	47.5	52.5	53.1	48.3
After-Tax Profits	-1.6	-1.4	-1.6	-8.6	NA	-0.4	-1.3	NA
Nonferrous Metals								
Capacity Utilization Rate (%)	91.0	81.1	80.7	78.3	79.1	80.4	80.6	79.8
Shipments	58.0	56.5	55.3	54.4	55.6	62.3	58.6	55.4
New Orders	57.5	57.1	51.3	53.4	57.0	61.3	58.2	54.7
After-Tax Profits	-2.2	0.7	1.0	0.6	NA	-0.1	-1.0	NA
Electrical Machinery								
Capacity Utilization Rate (%)	72.8	71.6	71.2	71.4	71.7	79.9	74.7	71.5
Shipments	194.8	187.4	189.5	201.3	209.9	182.3	185.5	197.0
New Orders	193.5	192.5	192.1	202.3	208.6	191.1	188.9	198.9
After-Tax Profits	6.1	6.8	9.3	6.0	NA	8.6	6.9	NA
Nonelectrical Machinery								
Capacity Utilization Rate (%)	73.7	72.8	70.9	70.9	70.1	76.3	75.1	71.2
Shipments	215.0	204.3	209.0	200.6	204.2	209.6	212.5	204.5
New Orders	203.6	199.8	200.5	201.4	191.7	212.4	210.5	198.4
After-Tax Profits	12.4	5.5	8.8	6.6	NA	12.0	9.7	NA
Autos, Trucks & Parts								
Capacity Utilization Rate (%)	81.6	82.3	79.8	79.4	77.9	81.6	82.9	79.9
Shipments	212.8	216.1	206.1	206.5	222.4	192.3	203.9	212.8
After-Tax Profits	10.7	10.0	11.6	5.1	NA	10.6	9.1	NA
Aerospace								
Shipments	99.1	92.1	95.7	98.5	109.1	76.3	90.3	98.9
New Orders	107.5	111.5	90.0	109.1	111.0	92.9	101.2	105.4
After-Tax Profits	1.6	4.2	4.6	4.0	NA	3.6	3.3	NA
Fabricated Metals								
Capacity Utilization Rate (%)	80.9	81.2	80.2	79.5	80.7	77.3	80.5	80.4
Shipments	176.2	170.0	171.6	168.9	169.9	139.2	168.9	170.1
New Orders	177.1	167.0	170.7	167.0	171.7	140.3	167.7	169.1
After-Tax Profits	2.3	3.7	4.7	3.1	NA	4.6	3.4	NA
Instruments								
Capacity Utilization Rate (%)	81.4	81.9	80.5	80.3	79.2	84.4	82.5	80.5
Shipments	57.1	56.5	55.8	56.2	57.5	53.5	56.8	56.5
New Orders	57.4	55.7	55.2	57.1	56.8	54.2	57.1	56.2
After-Tax Profits	2.4	-0.5	2.9	4.0	NA	4.2	3.6	NA
Stone, Clay & Glass								
Capacity Utilization Rate (%)	81.2	82.6	82.9	82.0	81.4	81.3	80.9	82.3
Shipments	57.2	59.6	59.7	58.3	59.7	55.0	57.3	59.3
New Orders	58.3	60.0	59.1	58.2	59.4	55.5	57.5	59.2
After-Tax Profits	1.7	0.8	2.8	2.8	NA	1.9	1.6	NA

*Shipments and new orders are at seasonally adjusted annual rates. Profits are at annual rates but not seasonally adjusted.

Table 4
Nondurables Indicators
(Billions of dollars)

	Quarterly					Annual		
	85:4	86:1	86:2	86:3	86:4	1984	1985	1986
Chemicals								
Capacity Util. Rate (%)	78.2	79.9	80.4	80.8	80.0	76.8	78.5	80.3
Shipments.....	214.2	214.6	211.9	214.6	216.3	211.8	214.3	214.4
After-Tax Profits.....	3.1	12.5	14.3	15.4	NA	13.9	9.5	NA
Paper								
Capacity Util. Rate (%)	92.0	93.9	94.7	96.3	96.9	93.3	91.7	95.5
Shipments.....	98.7	103.1	107.6	112.5	115.1	95.9	97.6	109.6
After-Tax Profits.....	2.8	2.4	3.7	3.3	NA	3.0	2.9	NA
Rubber & Plastics								
Capacity Util. Rate (%)	86.8	85.9	84.8	86.9	87.8	89.0	87.0	86.3
Shipments.....	48.4	47.9	48.2	46.2	48.7	52.2	48.3	47.7
After-Tax Profits.....	1.3	1.5	2.4	3.7	NA	2.3	1.6	NA
Petroleum								
Capacity Util. Rate (%)	86.2	89.3	91.2	91.0	90.2	83.3	84.5	90.4
Shipments.....	198.6	169.9	145.0	129.1	128.7	200.7	194.0	143.2
After-Tax Profits.....	13.1	10.8	16.9	1.4	NA	17.2	12.7	NA
Food & Beverage								
Capacity Util. Rate (%)	78.6	78.7	79.0	78.8	78.0	79.8	79.1	78.6
Shipments.....	296.5	302.1	306.2	317.0	319.0	295.1	296.2	311.1
Textiles								
Capacity Util. Rate (%)	88.1	88.0	90.4	92.6	94.5	85.5	84.0	91.4
Shipments.....	55.2	53.2	52.6	55.6	56.6	55.1	52.6	54.5
After-Tax Profits.....	1.9	1.7	2.1	2.0	NA	1.6	1.2	NA

*Shipments are at seasonally adjusted annual rates. Profits are at annual rates but not seasonally adjusted.

Elsewhere within nondurables, paper and pulp makers reported a surprising cut of 6.4%. This seems overly grim, considering a 12% increase in shipments last year and a 95.5% capacity utilization rate that should be the envy of most industries. Businesses falling under the "other" nondurables category expressed healthy investment plans, with an overall 5.6% increase during the year. Lumber firms plan increases of 28%, with leather up 57% and tobacco 27%. Furniture makers anticipate a 31% cut, while printers and publishers foresee only a slight increase.

Much disparity marked capital spending plans in the nonmanufacturing sector. Probably because of the profit squeeze brought on by the fight for market share following AT&T's breakup, the sizable communications industry shaved spending 0.9% for the year. In contrast, the huge trade and services group, which accounts for one-third of all capital spending, anticipates growth in capital budgets of 2.7%. Respondents report personal and business services up 8.2%, health services up 9.4%, computer and data processing flat, department stores down 3.7%, and hotels and motels down 17.1%.

Reversing the fall survey's estimate of a 7% cut in capital outlays, the mining industry expects a 2.4% increase in 1987. The reason is most likely the apparent stabilization and subsequent slight rise of oil prices, making oil and gas exploration and drilling less cost-prohibitive. Indeed, oil and gas extraction firms reported a healthy increase of nearly 15% in their capital budget plans. Conversely, oil-well service industries still anticipate a large cut, while coal mines look to a slight 2.9% drop.

Table 5
Nonmanufacturing Indicators

	Quarterly					Annual		
	85:4	86:1	86:2	86:3	86:4	1984	1985	1986
Mining								
Bituminous Coal Production --Thousand short tons	872,740	914,148	882,808	877,556	863,068	891,760	878,930	884,395
Oil & Gas Well Footage Drilled --Thousands of feet	291,514	256,378	146,030	112,021	71,719	363,850	307,719	146,537
Refiners' Acquisition Price of Oil--Dollars	26.75	20.49	13.05	12.35	13.36	28.53	26.66	14.81
Railroads								
Revenue Freight Ton-Miles --Billions of ton miles	862.8	878.4	886.0	873.2	NA	921.8	875.2	NA
New Freight Cars, Unfilled Orders --Thousands of cars	1.8	3.4	4.2	3.7	NA	5.2	1.8	NA
Airlines								
Passenger-Miles Revenue--Billions	317.8	327.3	364.0	NA	NA	298.2	331.7	NA
Passenger Load Factor--(%)	56.4	58.7	60.4	NA	NA	59.1	61.4	NA
Electric Utilities								
Electricity Output --Billions of kw-hr	2,513	2,415	2,514	2,511	2,526	2,417	2,471	2,490
Electric Utility Revenues --Millions of dollars	143,712	150,437	142,010	172,492	NA	142,259	149,155	NA
Gas Utilities								
Natural Gas Sales--Trillion btu	13,322	17,761	8,325	6,169	11,037	13,335	12,724	10,823
Gas Utility Revenues --Millions of dollars	62,745	84,603	38,451	27,430	NA	67,513	62,589	NA
Communications								
Commercial Construction --Billions of 1982 dollars	54.4	55.1	50.1	50.4	47.3	44.2	53.1	50.7
Consumer Spending on Financial Services --Billions of 1982 dollars	99.1	101.2	103.0	104.5	105.7	91.8	95.5	103.6
Trade and Services								
Retail Sales--Billions of dollars, SA	1,388.0	1,404.7	1,421.4	1,478.6	1,477.2	1,290.0	1,372.6	1,445.5
Consumer Spending On Personal & Business Services	334.5	344.3	344.5	343.2	347.4	309.6	326.1	344.8
Medical Services --Billions of 1982 dollars	241.3	243.0	245.0	246.7	248.9	230.8	237.8	245.9

Still burdened with large capacity additions made during the last decade, electric utilities continue to plan a cutback of nearly 10% in their capital spending budgets. The uncertainty and costly overruns plaguing the nuclear power sector drain the industry further. Despite weak demand, gas utilities plan on large increases in plant and equipment expenditures in the year ahead.

In 1988, respondents to the checkup survey expect to increase capital investment an additional 0.2%. These projections can only be considered tentative at this early date, however. Next year's tallies, as well as this year's estimates, can only be brought into focus as the economic picture for 1987 develops.

NOTES ON THE SURVEY

The results of this report are based on the response of 537 firms to a survey taken in January and February. These firms accounted for 21% of all 1986 capital spending in the country (Table IX). Firms supplied current dollar estimates of future capital spending as well as what was spent in 1986.

From these responses, percentage changes for 1986-87 and 1987-88 were calculated. Firms with a disproportionate share of the sample's capital spending and/or extreme percentage changes were removed from the sample when calculating the industry growth rates. These growth rates were then applied to the prior period's population spending level, excluding capital spending of outliers. Spending by outliers for the current period was then added back in. Therefore, the final result contains all available information provided by the sample.

The spending detail shown in Tables IV through VII is based on percentage, rather than dollar, figures provided by the sample firms. Percentage responses were weighted by the size of firms within each industry sample to derive industry figures.

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NOTE: The other durables category listed in the tables includes lumber, furniture, jewelry, toys, and transportation equipment other than autos and aerospace. Other nondurables includes apparel, tobacco, printing and publishing, and leather. The trade and services category includes retail and wholesale trade, banking, holding companies, insurance companies, hotels, laundries, construction companies, and personal and business services. Other transportation consists primarily of trucking companies.

Table I
Plans for Capital Spending

Industry	Level			Percent Change	
	1986 (*2)	1987	1988	1987	1988
Iron & Steel (*1).....	3.31	4.02	3.70	21.5	-8.0
Nonferrous Metals.....	1.85	1.84	1.91	-0.6	4.1
Electrical Machinery....	13.94	14.09	14.18	1.1	0.7
Non-Electrical Machinery	13.54	13.78	12.66	1.7	-8.1
Autos, Trucks & Parts...	14.09	12.90	12.24	-8.4	-5.1
Aerospace.....	3.65	3.68	3.55	0.8	-3.4
Fabricated Metals.....	4.01	3.60	4.15	-10.0	15.2
Instruments (*3).....	2.50	2.95	3.06	17.9	3.9
Stone, Clay & Glass.....	3.01	3.68	3.95	22.0	7.5
Other Durables (*3).....	8.48	7.84	8.39	-7.6	7.0
TOTAL DURABLES.....	68.39	68.38	67.81	0.0	-0.8
Chemicals.....	16.46	18.14	18.48	10.2	1.9
Paper & Pulp.....	8.79	8.23	8.22	-6.4	-0.2
Rubber & Plastic.....	4.04	3.51	3.66	-13.1	4.4
Petroleum.....	17.89	17.80	19.54	-0.5	9.8
Food & Beverage..	10.41	12.84	12.97	23.4	1.0
Textiles..... ...	1.59	1.85	1.83	16.0	-0.9
Other Nondurables... ..	13.72	14.63	15.53	6.6	6.1
TOTAL NONDURABLES.....	72.91	76.99	80.23	5.6	4.2
ALL MANUFACTURING.....	141.29	145.38	148.04	2.9	1.8
Mining.....	11.26	11.53	12.52	2.4	8.6
Railroads.....	6.73	5.94	6.60	-11.7	11.2
Airlines.....	5.97	6.35	6.32	6.3	-0.5
Other Transportation....	5.85	5.44	5.68	-7.0	4.4
Electric Utilities.....	33.69	30.41	29.33	-9.8	-3.5
Gas & Other Utilities...	12.41	16.41	16.43	32.2	0.1
Communications.....	32.64	32.36	32.68	-0.9	1.0
Trade & Services.....	126.43	129.86	126.83	2.7	-2.3
ALL NONMANUFACTURING....	234.99	238.30	236.39	1.4	-0.8
ALL BUSINESS.....	376.29	383.68	384.43	2.0	0.2

(*1) DRI Estimate.

(*2) 1986 data are DRI estimates derived from DRI's econometric model of industry plant and equipment spending, the November, 1986 McGraw-Hill Survey of Preliminary Plans for New Plant & Equipment Spendi[illegible]vey and the December 1986 BEA Plant & Equipment Expenditu[illegible]rvey.

(*3) Historical data for the instruments series is taken from the Census Bureau's Survey of Manufacturers. Data for 1986 are from the November 1986 McGraw-Hill/DRI Surveys. The other durables category is redefined to have components' sum equal total durables.

Table II
Inflation Expectations

	Expected % Change, 1986-87	
	Plant & Equip. Prices	Real Capital Spending
Iron & Steel	3.6	17.3
Nonferrous Metals	3.3	-3.8
Electrical Machinery	4.0	-2.9
Non-Electrical Machinery	3.0	-1.2
Autos, Trucks & Parts	3.0	-11.1
Aerospace	4.0	-3.1
Fabricated Metals	5.5	-14.7
Instruments	4.0	13.4
Stone, Clay & Glass	3.6	17.8
Other Durables	3.9	-11.0
TOTAL DURABLES	3.3	-3.2
Chemicals	3.3	6.7
Paper & Pulp	3.3	-9.3
Rubber & Plastic	3.7	-16.2
Petroleum	3.2	-3.6
Food & Beverage	3.3	19.5
Textiles	7.1	8.3
Other Nondurables	2.9	3.6
TOTAL NONDURABLES	3.3	2.2
ALL MANUFACTURING	3.3	-0.4
Mining	3.9	-1.5
Railroads	3.7	-14.9
Airlines	4.3	1.9
Other Transportation	5.5	-11.8
Electric Utilities	4.0	-13.2
Gas & Other Utilities	3.2	28.1
Communications	3.4	-4.1
Trade & Services	3.7	-1.0
TOTAL NONMANUFACTURING	3.8	-2.3
ALL BUSINESS	3.6	-1.5

Table III
Capital Spending on computers and Other Office Equipment
(Millions of dollars)

	Level		Percent of Industry's Total Capital Spending	
	1986	1987	1986	1987
Iron & Steel	73.6	135.3	2.2	3.4
Nonferrous Metals	164.6	95.6	8.9	5.2
Electrical Machinery	1,671.7	2,320.2	12.0	16.5
Non-Electrical Machinery	1,124.0	1,189.3	8.3	8.6
Autos, Trucks & Parts	654.1	540.6	4.6	4.2
Aerospace	465.1	592.4	12.7	16.1
Fabricated Metals	572.3	489.1	14.3	13.6
Instruments	288.2	377.7	11.5	12.8
Stone, Clay & Glass	71.9	69.8	2.4	1.9
Other Durables	598.2	1,197.4	7.1	15.3
TOTAL DURABLES	5,683.6	7,007.2	8.3	10.2
Chemicals	1,029.7	1,111.9	6.3	6.1
Paper & Pulp	172.1	177.0	2.0	2.2
Rubber & Plastic	334.5	132.2	8.3	3.8
Petroleum	147.7	642.4	0.8	3.6
Food & Beverage	467.0	763.5	4.5	5.9
Textiles	74.4	105.2	4.7	5.7
Other Nondurables	2,090.6	3,879.7	15.2	26.5
TOTAL NONDURABLES	4,316.0	6,811.9	5.9	8.8
ALL MANUFACTURING	9,999.6	13,819.1	7.1	9.5
Mining	206.5	126.5	1.8	1.1
Railroads	193.8	269.6	2.9	4.5
Airlines	156.7	156.4	2.6	2.5
Other Transportation	290.3	214.4	5.0	3.9
Electric Utilities	525.3	552.7	1.6	1.8
Gas & Other Utilities	341.8	363.0	2.8	2.2
Communications	1,651.2	1,833.6	5.1	5.7
Trade & Services	18,438.9	23,331.3	14.6	18.0
ALL NONMANUFACTURING	21,804.6	26,847.4	9.3	11.3
ALL BUSINESS	31,804.2	40,666.6	8.5	10.6

Table IV
Capital Spending on Manufacturing Equipment*
(Millions of dollars)

	Level		Percent of Industry's Total Capital Spending	
	1986	1987	1986	1987
Iron & Steel	2,958.2	3,367.8	89.4	83.7
Nonferrous Metals	961.9	1,276.3	52.0	69.5
Electrical Machinery	6,471.4	6,767.4	46.4	48.0
Non-Electrical Machinery	8,667.4	8,939.9	64.0	64.9
Autos, Trucks & Parts	11,962.7	11,046.9	84.9	85.6
Aerospace	1,820.2	1,595.2	49.9	43.4
Fabricated Metals	2,343.1	2,290.7	58.5	63.5
Instruments	1,262.1	1,469.0	50.5	49.8
Stone, Clay & Glass	1,730.8	1,968.7	57.4	53.5
Other Durables	5,089.7	5,418.3	60.0	69.1
TOTAL DURABLES	43,267.6	44,140.2	63.3	64.6
Chemicals	8,391.9	9,329.5	51.0	51.4
Paper & Pulp	7,796.9	7,428.1	88.7	90.3
Rubber & Plastic	2,708.8	2,680.8	67.0	76.4
Petroleum	12,707.4	10,655.4	71.0	59.9
Food & Beverage	7,273.1	9,159.6	69.9	71.3
Textiles	1,254.8	1,235.8	78.8	66.9
Other Nondurables	9,221.2	8,291.6	67.2	56.7
TOTAL NONDURABLES	49,354.1	48,780.8	67.7	63.4
ALL MANUFACTURING	92,621.7	92,921.0	65.6	63.9
Mining	5,283.4	5,647.7	46.9	49.0
Railroads	518.7	516.6	7.7	8.7
Airlines	244.2	255.7	4.1	4.0
Other Transportation	24.5	21.4	0.4	0.4
Electric Utilities	22,741.9	21,021.7	67.5	69.1
Gas & Other Utilities	5,986.8	6,643.1	48.2	40.5
Communications	514.0	499.2	1.6	1.5
Trade & Services	20,015.1	15,849.2	15.8	12.2
ALL NONMANUFACTURING	55,328.7	50,454.6	23.5	21.2
ALL BUSINESS	147,950.4	143,375.6	39.3	37.4

*Data are derived from the second part of question 3 on the questionnaires reprinted at the end of this report. Manufacturers were asked what share of capital spending for equipment used in manufacturing, processing, and assembling. Equipment definitions for nonmanufacturing industries were as follows: mining--mining and drilling equipment; railroads--tools and equipment; airlines--tools and equipment; utilities--generation, distribution, and transmission equipment; communications--installation, service, and broadcast tools and equipment; trade and services--fixtures and other non-computer equipment.

Table V
Capital Spending on Autos and Trucks*
(Millions of dollars)

	Level		Percent of Industry's Total Capital Spending	
	1986	1987	1986	1987
Iron & Steel	49.4	79.1	1.5	2.0
Nonferrous Metals	15.5	15.6	0.8	0.9
Electrical Machinery	52.1	27.2	0.4	0.2
Non-Electrical Machinery	261.1	286.1	1.9	2.1
Autos, Trucks & Parts	52.8	59.0	0.4	0.5
Aerospace	33.0	42.4	0.9	1.2
Fabricated Metals	115.5	98.2	2.9	2.7
Instruments	102.0	109.7	4.1	3.7
Stone, Clay & Glass	134.8	182.8	4.5	5.0
Other Durables	309.0	382.6	3.6	4.9
TOTAL DURABLES	1,125.1	1,282.8	1.6	1.9
Chemicals	233.4	262.1	1.4	1.4
Paper & Pulp	84.1	70.0	1.0	0.9
Rubber & Plastic	42.0	0.6	1.0	0.0
Petroleum	239.0	492.7	1.3	2.8
Food & Beverage	226.1	256.3	2.2	2.0
Textiles	53.4	100.8	3.4	5.5
Other Nondurables	49.2	96.7	0.4	0.7
TOTAL NONDURABLES	927.2	1,279.3	1.3	1.7
ALL MANUFACTURING	2,052.3	2,562.0	1.5	1.8
Mining	248.2	216.6	2.2	1.9
Railroads	478.7	57.8	7.1	1.0
Airlines	4,046.9	3,641.6	67.7	57.3
Other Transportation	3,456.7	3,633.7	59.1	66.8
Electric Utilities	417.7	458.3	1.2	1.5
Gas & Other Utilities	107.0	125.6	0.9	0.8
Communications	438.2	508.3	1.3	1.6
Trade & Services	10,196.9	4,999.6	8.1	3.8
ALL NONMANUFACTURING	19,390.3	13,641.6	8.3	5.7
ALL BUSINESS	21,442.6	16,203.6	5.7	4.2

*Data for railroad and airline industries are for locomotives and aircraft.

Table VI
Capital Spending on Factory Construction*
(Millions of dollars)

	Level		Percent of Industry's Total Capital Spending	
	1986	1987	1986	1987
Iron & Steel	130.7	199.2	3.9	5.0
Nonferrous Metals	309.4	152.5	16.7	8.3
Electrical Machinery	2,029.5	659.4	14.6	4.7
Non-Electrical Machinery	1,698.0	642.0	12.5	4.7
Autos, Trucks & Parts	1,272.8	1,112.0	9.0	9.6
Aerospace	697.8	587.1	19.1	16.0
Fabricated Metals	255.5	228.5	6.4	6.3
Instruments	173.1	306.1	6.9	10.4
Stone, Clay & Glass	747.2	1,055.6	24.8	28.7
Other Durables	1,284.5	358.0	15.1	4.6
TOTAL DURABLES	8,598.5	5,300.5	12.6	7.8
Chemicals	1,031.3	1,151.6	6.3	6.3
Paper & Pulp	549.1	437.3	6.2	5.3
Rubber & Plastic	509.1	448.9	12.6	12.8
Petroleum	21.2	71.0	0.1	0.4
Food & Beverage	1,621.0	1,549.6	15.6	12.1
Textiles	63.6	214.6	4.0	11.6
Other Nondurables	1,407.7	1,292.7	10.3	8.8
TOTAL NONDURABLES	5,202.8	5,165.7	7.1	6.7
ALL MANUFACTURING	13,801.3	10,466.2	9.8	7.2
Mining	155.6	374.7	1.4	3.2
Railroads	4,217.9	3,643.4	62.7	61.4
Airlines	34.2	52.1	0.6	0.8
Other Transportation	0.0	0.0	0.0	0.0
Electric Utilities	5,215.6	3,845.5	15.5	12.6
Gas & Other Utilities	226.7	641.2	1.8	3.9
Communications	27,794.2	27,432.7	85.1	84.8
Trade & Services	11,672.0	19,048.4	9.2	14.7
ALL NONMANUFACTURING	49,316.1	55,038.0	21.0	23.1
ALL BUSINESS	63,117.4	65,504.2	16.8	17.1

*Data are derived from the fourth part of question 3 on the questionnaires reprinted at the end of this report. Manufacturers were asked what share of capital spending was (will be) for factory construction. Construction definitions for nonmanufacturing industries were as follows: mining--site development; railroads--track and roadway construction and maintenance; airlines--hangar and terminal construction; utilities--plant construction; communications--switching, trunking, and telecommunications plant; trade and services--outlets, warehouse, and other non-office construction.

Table VII
Capital Spending on Office Construction
(Millions of dollars)

	Level		Percent of Industry's Total Capital Spending	
	1986	1987	1986	1987
Iron & Steel	0.0	0.6	0.0	0.0
Nonferrous Metals	106.8	118.7	5.8	6.5
Electrical Machinery	381.5	730.5	2.7	5.2
Non-Electrical Machinery	75.9	106.6	0.6	0.8
Autos, Trucks & Parts	131.4	127.1	0.9	1.0
Aerospace	328.0	433.8	9.0	11.8
Fabricated Metals	39.7	26.4	1.0	0.7
Instruments	355.7	219.7	14.2	7.5
Stone, Clay & Glass	75.6	78.9	2.5	2.1
Other Durables	160.7	182.6	1.9	2.3
TOTAL DURABLES	1,655.3	2,024.7	2.4	3.0
Chemicals	372.5	343.1	2.3	1.9
Paper & Pulp	27.6	36.7	0.3	0.4
Rubber & Plastic	161.2	61.0	4.0	1.7
Petroleum	6.4	0.0	0.0	0.0
Food & Beverage	386.9	753.1	3.7	5.9
Textiles	2.2	6.1	0.1	0.3
Other Nondurables	67.8	3.3	0.5	0.0
TOTAL NONDURABLES	1,024.6	1,203.2	1.4	1.6
ALL MANUFACTURING	2,679.9	3,227.9	1.9	2.2
Mining	54.2	18.7	0.5	0.2
Railroads	43.2	64.1	0.6	1.1
Airlines	0.0	0.0	0.0	0.0
Other Transportation	8.2	39.0	0.1	0.7
Electric Utilities	694.9	670.1	2.1	2.2
Gas & Other Utilities	86.8	146.1	0.7	0.9
Communications	930.0	1,035.1	2.8	3.2
Trade & Services	8,233.1	13,492.1	6.5	10.4
ALL NONMANUFACTURING	10,050.4	15,465.2	4.3	6.5
ALL BUSINESS	12,730.3	18,693.1	3.4	4.9

Table VIII
Industry Detail Data

Industry	Capital Spending % Change 1987	1988
Coal Mining	-2.9	1.4
Oil & Gas Extraction	14.7	15.6
Oil Well Services	-17.3	8.8
General Building Contractors	83.3	-13.6
Heavy Construction Contractors	5.9	0.0
Meat Products	-4.9	3.1
Dairy Products	94.6	-33.5
Preserved Fruits and Vegetables	18.4	-0.9
Grain Mill Products	97.6	1.8
Bakery Products	-5.6	-29.4
Sugar Products	-28.6	NA
Beverages	0.0	8.0
Tobacco	26.5	21.7
Weaving Mills, Cotton	5.6	2.6
Knitting Mills	13.2	-9.8
Yarn and Thread Mills	NC	0.0
Apparel	0.0	-13.9
Lumber	28.1	9.7
Furniture	-31.4	7.7
Converted Paper Prod	-33.0	-20.7
Printing and Publishing	0.4	8.7
Industrial Inorganic Chemicals	-7.1	0.0
Plastics Materials and Synthetics	15.8	45.5
Drugs	14.0	2.3
Soap, Cleaners, & Toilet Goods	5.9	-5.9
Paints	49.1	5.9
Agricultural Chemicals	-5.9	25.0
Misc. Chemicals	-4.7	-6.6
Miscellaneous Plastics Products	10.3	16.7
Leather	57.3	NA
Products of Purchased Glass	21.4	-4.4
Cement, Hydraulic	69.0	-1.1
Structural Clay Products	30.9	-8.0
Misc. Nonmetallic Mineral Products	21.4	16.7
Iron & Steel	70.3	-17.8
Primary Nonferrous Metals	-17.5	9.9
Nonferrous Rolling and Drawing	14.5	0.1
Cutlery, Hand Tools, Hardware	48.6	23.3
Plumbing and Heating Eq	220.0	-56.3
Fabricated Structural Metal	-21.3	20.6
Screw Machine Products	-12.4	-1.1
Misc. Fabricated Metals	-8.6	2.4

Table VIII (Continued)

Industry	Capital Spending % Change 1987	1988
Engines and Turbines	-0.5	-33.3
Farm Equipment	6.9	2.9
Construction, Mining, Materials Handling Eq.	-43.9	-13.0
Metalworking Machinery	6.0	-0.1
Special Industry Machinery	13.2	19.8
General Industrial Machinery	-5.9	10.5
Office, Computing Machinery	1.8	-19.9
Refrigeration and Service Industry Machinery	52.5	-19.0
Electric Distributing Equipment	-16.7	0.0
Electrical Industrial Apparatus	12.4	15.0
Electric Lighting and Wiring	73.0	-22.2
Communication Equipment	3.8	6.2
Electronic Components	16.9	3.5
Misc. Electrical	21.0	12.2
Ships & Boats	-5.2	4.5
Engineering & Scientific Instruments	7.7	2.7
Optical Instruments and Lenses	4.2	NA
Medical Instruments and Supplies	-23.8	-7.7
Miscellaneous Manufacturing	20.3	17.3
Trucking and Warehousing	41.3	7.1
Communications	-1.1	1.0
Telephone Communications	-2.4	1.4
Electric Utilities (*1)	-11.0	-3.9
Gas Utilities (*1)	30.6	1.6
Retail and Whole. Trade	3.6	-1.6
Hardware, Plumbing Eq.--Whole	181.4	-16.8
Wholesale, Farm Products-Raw Materials	19.4	NA
General Merchandise Stores	-3.9	-0.6
Department Stores	-3.7	NC
Food Stores	22.9	6.1
Finance	26.0	-2.0
Insurance Carriers	17.9	-4.7
Personal & Business Services	8.2	0.9
Hotels and Motels	-17.1	-11.7
Business Services	0.1	3.5
Computer and Data Processing Services	0.0	9.3
Miscellaneous Business Services	4.0	0.4
Amusement & Recreations Services	-4.9	2.9
Health Services	9.4	1.5
Educational Services	8.7	2.9
Miscellaneous Professional Services	4.2	24.7

(*1) Percentage changes in this report are different than those reported in table 1 due to the treatment of outliers. In table 1, the dollar spending of 'outliers' is re-included when going from sample percentage change to the level of industry spending.

Table IX
Survey Sample Size

Industry	Percentage of Capital Spending Covered by Survey
Iron & Steel	7.0
Nonferrous Metals	40.5
Electrical Machinery	20.1
Non-Electrical Machinery	29.3
Autos, Trucks & Parts	99.1
Aerospace	46.9
Fabricated Metals	6.2
Instruments	29.8
Stone, Clay & Glass	24.2
Other Durables	5.9
TOTAL DURABLES	35.5
Chemicals	27.1
Paper & Pulp	20.7
Rubber & Plastic	4.0
Petroleum	55.0
Food & Beverage	12.8
Textiles	11.7
Other Nondurables	10.6
TOTAL NONDURABLES	26.4
ALL MANUFACTURING	30.8
Mining	13.0
Railroads	47.3
Airlines	43.3
Other Transportation	2.4
Electric Utilities	51.0
Gas & Other Utilities	10.1
Communications	18.5
Trade & Services	3.9
ALL NONMANUFACTURING	15.7
ALL BUSINESS	21.4

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CAPITAL SPENDING CHECK-UP SURVEY

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1986 and how much does it plan to spend (including inflation) in 1987 and 1988? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. Include special tools. If your company has merged with another since 1985, please report spending on a comparable basis for all years.)

1986	1987	1988
$	$	$

If the answers above omit 000s or 000,000s please indicate: _____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) between 1986 and 1987 ? _____ %

3. Of total capital spending, what percent was and will be for:

	1986	1987
Computers and Other Office Equipment	_____ %	_____ %
Machinery used in Manufacturing, Processing, and Assembling	_____ %	_____ %
Autos & Trucks	_____ %	_____ %
Factory Construction	_____ %	_____ %
Office Construction	_____ %	_____ %
All Other Machinery & Buildings	_____ %	_____ %
	100 %	100 %

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Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1986 and how much does it plan to spend (including inflation) in 1987 and 1988? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. Include special tools. If your company has merged with another since 1985, please report spending on a comparable basis for all years.)

1986	1987	1988
$	$	$

If the answers above omit 000s or 000,000s please indicate: _____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) between 1986 and 1987 ? _____ %

3. Of total capital spending, what percent was and will be for:

	1986	1987
Computers and Other Office Equipment	_____ %	_____ %
Generation, Distribution & Transmission Equipment	_____ %	_____ %
Autos & Trucks	_____ %	_____ %
Plant Construction	_____ %	_____ %
Office Construction	_____ %	_____ %
All Other Electric & Gas Utility Property and Equipment	_____ %	_____ %
	100 %	100 %

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Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1986 and how much does it plan to spend (including inflation) in 1987 and 1988? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. Include special tools. If your company has merged with another since 1985, please report spending on a comparable basis for all years.)

1986	1987	1988
$	$	$

If the answers above omit 000s or 000,000s please indicate: _____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) between 1986 and 1987 ? _____ %

3. Of total capital spending, what percent was and will be for:

	1986	1987
Computers and Other Office Equipment	_____ %	_____ %
Tools & Equipment	_____ %	_____ %
Locomotives	_____ %	_____ %
Track and Roadway Construction and Maintenance	_____ %	_____ %
Office Construction	_____ %	_____ %
All Other Machinery & Construction	_____ %	_____ %
	100 %	100 %

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CAPITAL SPENDING CHECK-UP SURVEY

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1986 and how much does it plan to spend (including inflation) in 1987 and 1988? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. Include special tools. If your company has merged with another since 1985, please report spending on a comparable basis for all years.)

1986	1987	1988
$	$	$

If the answers above omit 000s or 000,000s please indicate: _____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) between 1986 and 1987 ? _____ %

3. Of total capital spending, what percent was and will be for:

	1986	1987
Computers and Other Office Equipment	_____ %	_____ %
Mining & Drilling Machinery	_____ %	_____ %
Autos & Trucks	_____ %	_____ %
Site Development	_____ %	_____ %
Office Construction	_____ %	_____ %
All Other Machinery & Construction	_____ %	_____ %
	100 %	100 %

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Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1986 and how much does it plan to spend (including inflation) in 1987 and 1988? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. Include special tools. If your company has merged with another since 1985, please report spending on a comparable basis for all years.)

1986	1987	1988
$	$	$

If the answers above omit 000s or 000,000s please indicate: _____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) between 1986 and 1987 ? _____ %

3. Of total capital spending, what percent was and will be for:

	1986	1987
Computers and Other Office Equipment	_____ %	_____ %
Fixtures and Other Non-Computer Equipment	_____ %	_____ %
Autos & Trucks	_____ %	_____ %
Outlet, Warehouse, and Other Non-Office Construction	_____ %	_____ %
Office Construction	_____ %	_____ %
All Other Equipment and Facilities	_____ %	_____ %
	100 %	100 %

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Lexington, Massachusetts 02173

CAPITAL SPENDING CHECK-UP SURVEY

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1986 and how much does it plan to spend (including inflation) in 1987 and 1988? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. Include special tools. If your company has merged with another since 1985, please report spending on a comparable basis for all years.)

1986	1987	1988
$	$	$

If the answers above omit 000s or 000,000s please indicate: _____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) between 1986 and 1987 ? _____ %

3. Of total capital spending, what percent was and will be for:

	1986	1987
Computers and Other Office Equipment	_____ %	_____ %
Tools & Equipment	_____ %	_____ %
Aircraft	_____ %	_____ %
Hanger and Terminal Construction	_____ %	_____ %
Office Construction	_____ %	_____ %
All Other Machinery & Construction	_____ %	_____ %
	100 %	100 %

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____

ALL YOUR ANSWERS WILL BE HELD STRICTLY CONFIDENTIAL

(Please return by February 13, 1987)

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May 1987

40th ANNUAL DRI/McGRAW-HILL SPRING SURVEY OF BUSINESS PLANS FOR NEW PLANTS AND EQUIPMENT, 1987-89

McGraw-Hill's latest survey of the nation's capital spending plans shows U.S. industry ready to raise the investment ante this year to a level not anticipated even six months ago. The results imply that, for most sectors, the worst is over and the time is right to play catchup. According to the survey conducted in April and May, U.S. business investment is expected to rise 3.3%, to $391.6 billion (Table I)*. By comparison, respondents to McGraw-Hill's March survey planned a capital spending increase of just 2.0% in 1987; last fall, they expected only a 0.4% rise.

In addition to the higher nominal spending levels, inflation expectations have edged down slightly: after hanging intractably at 3.6% in the previous two surveys, plant and equipment prices are now expected to rise only 3.3% in 1987 (Table VIII).

If investment outlays and inflation predictions hold true to respondents' expectations, real (inflation-adjusted) capital spending will remain flat for the year. The March survey, in contrast, projected a real investment cutback of 1.5%.

All three major sectors plan to increase spending to some degree. Durable goods manufacturers have become more optimistic since the last survey and now predict a 2.4% investment increase. Iron and steel companies show extremely ambitious spending plans and producers of electrical and non-electrical machinery look for a modest rise; the motor vehicle industry, meanwhile remains in the doldrums. Nondurable goods manufacturers demonstrated the most bullishness, with plans to increase spending some 4.9% in 1987. Chemical companies, food and beverage processors, and other nondurable producers reported the largest spending gains, while petroleum refiners remain cautious. Nonmanufacturing firms anticipate a 3.0% overall increase in plant and equipment this year. Although electric utilities plan a moderate cutback, the huge trade and service component anticipates a significant rise.

*Tables denoted by Roman numerals appear at the end of this report.

Chart 1
New Plant and Equipment Prices
(Percent change)

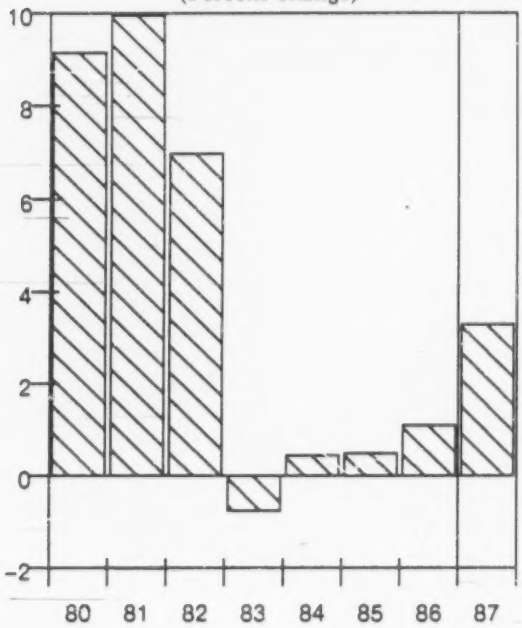
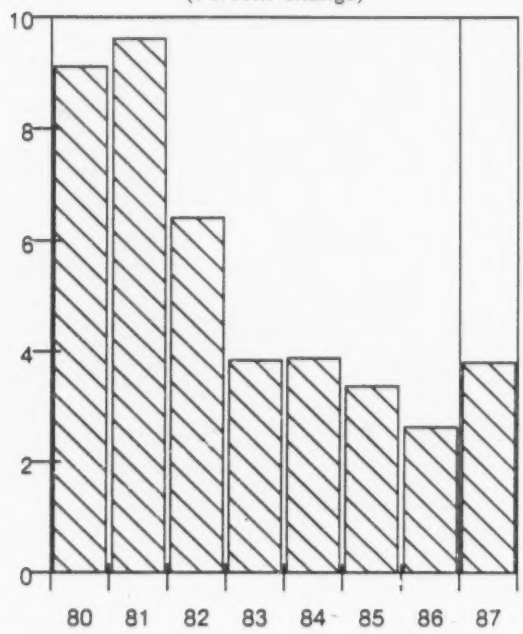


Chart 2
Output Prices
(Percent change)



These are the key findings of DRI/McGraw-Hill's 40th Annual Spring Survey of Business Plans for New Plant and Equipment, 1987-89. The survey drew responses from 463 companies that account for 22.8% of capital investment in the United States (Table IX). Figures in this report have been adjusted to represent spending by all U.S. companies and reflect domestic investment only.

Over the past several years, the survey has shown that respondents' inflation expectations are consistently too high. Between November 1985 and March 1987, for example, respondents assumed that capital goods prices would rise between 3.6% and 4.7%; actual inflation settled below 2%. While the latest survey results do record a lower rate of 3.3% for 1987, DRI estimates that plant and equipment inflation will again fall below 2%.

On the other hand, survey respondents predict that their product prices will rise an average of 3.8% this year (Table VIII), in line with DRI's forecast. In the latest survey, respondents expect an average 6.6% rise in sales before inflation; if product prices indeed increase 3.8%, real sales would thus be up 2.8% (Tables VI and VII). Sales and investment projections now seem more consistent than last fall, when

Table 1
Capital Equipment Spending
(Billions of 1982 dollars)

	Quarterly					Annual		
	86:1	86:2	86:3	86:4	87:1	1984	1985	1986
Total Equipment	309.7	323.9	324.9	330.1	322.3	280.9	309.2	322.1
Information Processing & Related Eq.	106.8	116.3	118.8	123.5	119.9	98.4	111.5	116.4
Office & Computing Machinery	51.7	61.6	61.1	63.3	61.7	46.4	55.9	59.4
Communication Equipment	31.1	31.2	34.1	35.5	34.4	29.7	31.7	33.0
Scientific & Engineering Inst.	11.7	11.9	11.6	12.1	11.4	10.5	11.9	11.8
Photocopy & Related Equipment	12.3	11.6	12.0	12.6	12.4	11.8	11.9	12.1
Industrial Equipment	53.3	54.7	53.8	55.8	55.5	49.1	52.1	54.4
Fabricated Metals	9.5	9.6	9.5	9.4	9.5	8.0	9.6	9.5
Metalworking Machinery	14.8	14.5	14.0	15.0	15.0	13.7	14.4	14.6
Special Industrial Eq.	12.4	13.1	13.7	14.1	14.6	11.6	12.1	13.3
General Industrial Eq.	16.6	17.4	16.7	17.2	16.3	15.7	16.1	17.0
Transportation Equipment	70.4	73.4	74.7	71.0	66.7	61.1	69.3	72.4
Trucks, Buses & Trailers	26.1	28.0	28.7	26.9	27.6	27.4	29.0	27.4
Autos	23.7	25.1	25.4	24.6	20.8	21.9	24.1	24.7
Aircraft	17.8	17.5	17.3	16.3	15.7	8.5	12.8	17.2
Ships & Boats	1.3	1.2	1.4	1.5	1.0	1.8	1.7	1.4
Railroad Equipment	1.5	1.6	1.9	1.6	1.6	1.5	1.7	1.7
Energy and Related Eq.	18.2	16.8	16.8	17.9	17.1	17.3	17.8	17.4
Engines & Turbines	2.3	1.6	1.5	2.4	1.4	1.6	1.9	2.0
Electrical Trans. & Dist. Eq.	12.3	12.2	12.6	13.0	13.1	11.7	12.1	12.5
Mining & Oilfield Machinery	3.6	3.0	2.6	2.5	2.5	4.0	3.8	2.9
Miscellaneous Equipment	62.9	64.7	62.7	63.8	65.2	56.4	60.3	63.5
Furniture & Fixtures	13.8	13.7	14.2	14.6	14.5	12.5	13.8	14.1
Tractors	6.1	6.3	5.9	5.8	6.1	6.0	5.9	6.0
Agricultural Machinery	6.7	6.9	6.2	6.4	7.6	6.5	6.7	6.6
Construction Machinery	12.7	13.1	11.2	11.4	10.9	8.5	10.6	12.1
Service Industry Machinery	6.6	6.8	6.7	6.9	6.7	7.3	7.1	6.8
Electrical Equipment, n.e.c.	7.5	8.1	8.7	9.5	9.4	7.1	7.4	8.5
Other Equipment	9.4	9.8	9.7	9.3	10.0	8.6	8.7	9.5
	Annual Rates of Change							
Total Equipment	-17.0	19.7	1.2	6.5	-9.1	20.1	10.1	4.2
Information Processing & Related Eq.	-35.5	40.5	9.1	16.7	-11.3	25.7	13.4	4.3
Office & Computing Machinery	-50.8	101.2	-2.9	15.0	-9.7	43.7	20.5	6.3
Communication Equipment	-24.1	1.9	41.3	18.2	-11.7	10.6	6.8	3.9
Scientific & Engineering Inst.	-19.0	4.8	-7.4	16.6	-22.4	4.6	13.9	-1.0
Photocopy & Related Equipment	18.7	-20.7	14.9	21.6	-6.6	29.7	1.4	1.6
Industrial Equipment	-5.3	10.3	-5.9	15.1	-2.2	14.7	6.2	4.3
Fabricated Metals	-13.3	2.2	-4.0	-2.2	2.4	-4.5	19.4	-0.7
Metalworking Machinery	-9.8	-6.4	-14.2	31.1	1.6	22.6	4.6	1.6
Special Industrial Eq.	-0.4	25.9	18.3	14.6	14.3	10.8	4.1	10.1
General Industrial Eq.	0.2	20.2	-16.1	13.2	-19.4	23.8	2.3	5.4
Transportation Equipment	-10.6	18.2	7.4	-18.6	-22.0	24.3	13.4	4.5
Trucks, Buses & Trailers	-49.0	32.5	10.6	-23.1	11.0	47.3	5.6	-5.2
Autos	23.9	24.5	6.0	-12.1	-48.8	22.0	10.1	2.5
Aircraft	58.6	-6.0	-5.3	-20.2	-15.2	-9.0	51.7	34.4
Ships & Boats	-43.9	-19.4	56.4	35.3	-83.6	-17.3	-5.3	-21.3
Railroad Equipment	-37.4	33.5	112.0	-46.5	0.5	38.9	12.0	-2.1
Energy and Related Eq.	-12.1	-27.3	-1.1	30.3	-17.5	11.4	2.8	-2.2
Engines & Turbines	38.3	-73.7	-19.1	478.4	-86.9	12.2	14.5	5.4
Electrical Trans. & Dist. Eq.	-13.2	-3.8	12.8	14.2	4.4	16.4	3.1	3.5
Mining & Oilfield Machinery	-29.7	-53.6	-38.1	-18.6	-4.1	-1.5	-2.9	-24.0
Miscellaneous Equipment	6.1	12.4	-12.1	7.7	8.7	13.7	6.8	5.4
Furniture & Fixtures	-11.1	-0.8	13.2	11.8	-0.7	13.7	11.1	1.6
Tractors	3.7	7.6	-19.5	-6.8	20.4	16.4	-0.5	1.7
Agricultural Machinery	-21.3	12.4	-32.7	13.6	94.1	0.1	3.4	-2.1
Construction Machinery	36.8	15.5	-46.5	5.1	-15.9	29.8	23.6	14.7
Service Industry Machinery	-5.3	15.5	-5.9	6.7	-11.0	18.3	-2.3	-5.2
Electrical Equipment, n.e.c.	-18.3	30.5	35.0	43.7	-3.9	17.5	4.3	14.8
Other Equipment	74.4	15.8	-4.9	-15.7	34.3	3.9	1.1	9.2

manufacturers predicted that real sales would increase 5.2% in 1987 at the same time that they planned real capital budget cuts.

INVESTMENT PRIORITIES

Perhaps the most noteworthy results to come out of DRI's latest capital spending survey relate to U.S. manufacturers' priorities for expansion and replacement/modernization (Table II). In the current economic climate of sluggish growth, overcapacity, and nearly cutthroat competitiveness, it is not surprising that 1987 investment plans favor replacement and modernization needs over expansion by nearly a three to one margin. As recently as 1978, manufacturers devoted equal amounts to each category. In 1983, the first year of the current recovery, expansion spending still represented a robust 39% of all capital investment.

With operating rates of 80.8% reported by durable goods manufacturers at the end of 1986 (Table V), overcapacity within this sector clearly justifies the small share (22%) budgeted for expansion. Nondurable goods manufacturers, on the other hand, finished 1986 with a higher utilization rate and thus with higher sales expectations for this year; consequently, they plan to allot 33% of their capital budgets towards

Chart 3
Investment in Expansion versus Modernization by all Manufacturing Industries
(Percent of capital spending)

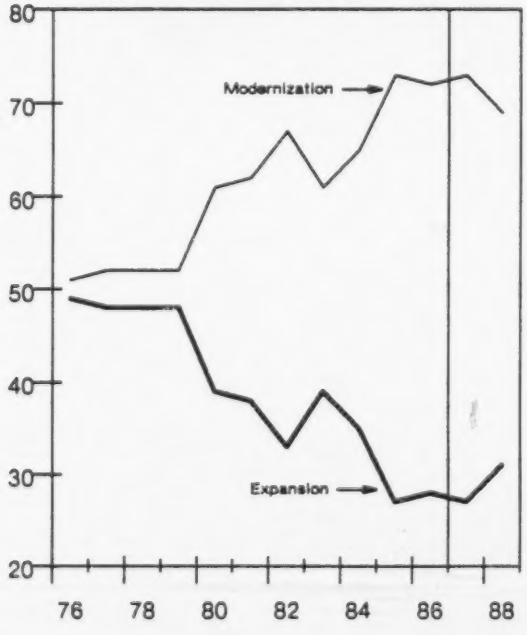


Chart 4
Investment in Equipment versus Buildings by all Businesses
(Percent of capital spending)

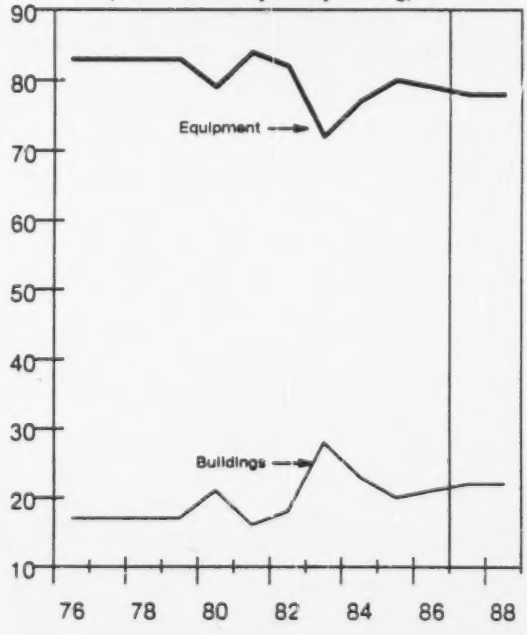


Table 2
Nonresidential Construction
(Billions of 1982 dollars)

	Quarterly					Annual		
	86:1	86:2	86:3	86:4	87:1	1984	1985	1986
	Billions of 1982 dollars							
Total Structures	148.09	132.89	129.49	127.70	124.03	141.30	152.18	134.54
Buildings & Other	91.30	83.71	83.66	81.08	76.97	79.00	89.66	84.94
Offices	27.68	25.47	24.34	23.35	22.50	23.81	28.13	25.21
Stores & Warehouses	27.45	24.60	26.06	24.44	22.70	20.34	24.98	25.64
Industrial	13.26	11.88	11.10	11.17	9.91	12.63	14.05	11.85
Institutional	8.86	8.92	9.06	9.35	9.43	9.05	8.61	9.05
Educational	1.84	1.79	1.74	2.13	2.27	1.30	1.49	1.87
Religious	2.28	2.22	2.39	2.38	2.24	1.96	2.14	2.32
Hospitals	4.75	4.91	4.94	4.84	4.91	5.79	4.98	4.86
All Other	14.05	12.83	13.09	12.76	12.43	13.16	13.90	13.19
Public Utilities	27.66	27.21	26.74	26.06	25.78	23.50	26.41	26.97
Telephone & Telegraph	6.84	6.96	6.65	6.61	6.43	6.70	6.91	6.77
Mining & Petroleum	28.93	21.97	19.10	20.56	21.28	38.80	36.12	22.64
	Annual Rates of Change							
Total Structures	-10.8	-35.2	-9.8	-5.4	-11.0	11.1	7.7	-11.6
Buildings & Other	-0.6	-29.4	-0.2	-11.8	-18.8	16.3	13.5	-5.3
Offices	-5.3	-28.2	-16.6	-15.3	-13.9	19.0	18.1	-10.4
Stores & Warehouses	18.6	-35.6	26.0	-22.6	-25.6	40.7	22.8	2.7
Industrial	-24.2	-35.5	-23.8	2.3	-37.9	1.8	11.2	-15.6
Institutional	14.0	2.4	6.8	13.3	3.4	-3.7	-4.8	5.1
Educational	55.9	-9.4	-11.9	128.0	29.7	-4.6	14.9	25.6
Religious	4.3	-9.8	34.6	-1.2	-21.1	14.3	9.4	8.0
Hospitals	6.0	13.8	2.6	-8.1	6.1	-8.3	-14.1	-2.3
All Other	-6.4	-30.4	8.2	-9.6	-10.0	13.1	5.6	-5.1
Public Utilities	11.6	-9.0	-6.8	-9.7	-4.3	-5.2	12.4	2.1
Telephone & Telegraph	20.3	7.5	-17.0	-2.1	-10.6	9.2	3.2	-2.1
Mining & Petroleum	-46.7	-66.7	-42.9	34.2	14.8	12.3	-6.9	-37.3

expansion. The share of spending for expansion ranges from zero among nonferrous metal producers to 79% among rubber and plastic companies (Table II).

According to the survey, the investment breakdown between buildings and motor vehicles/machinery demonstrates its historical pattern: 20% for buildings, 80% for all equipment and machinery. Nonmanufacturers, led by the trade and service industries, plan the largest slice for building construction--some 27% in 1987. Consistent with their weak expansion plans, durable goods manufacturers anticipate the smallest building budgets, allotting just 13% of their total investment outlay; nondurable goods manufacturers plan a 17% share.

INDUSTRY DETAIL

Within the durable goods manufacturing sector, iron and steel manufacturers anticipate a substantial 20.3% increase in capital expenditures this year. Battered by imports several years now, steel producers have reduced capacity significantly. Some breathing room has occurred from the cheaper dollar and the Reagan administration's Voluntary Restraint Agreements, which have limited steel imports. Still, nearly all of their investment budgets will go toward modernization and replacement, especially for new casting technologies in existing facilities. Nonferrous metal producers also plan a hearty 12.6% investment increase. Like steel, this industry has ample excess capacity and will devote spending to replacement and modernization priorities.

While makers of electrical machinery plan only a modest 2.1% increase overall, this estimate masks wide disparities within particular industries. Household appliance producers, expecting continued strength in consumer spending, noted a nearly 90% investment increase. Communication equipment and electrical industrial apparatus makers also plan increases. At the same time, though, electronic components and microchip makers take a pessimistic view of the fortunes of their computer endmarket and thus anticipate a 4.6% investment cut.

Chart 5
Investment in New Plants and Equipment
All Businesses
(Billions of dollars)

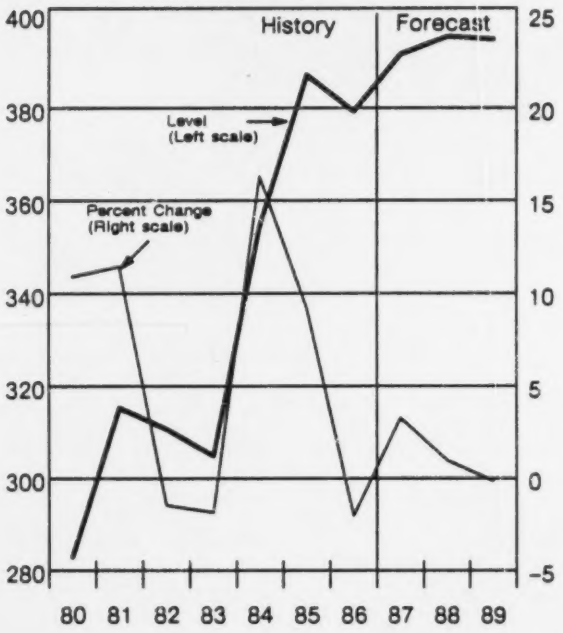
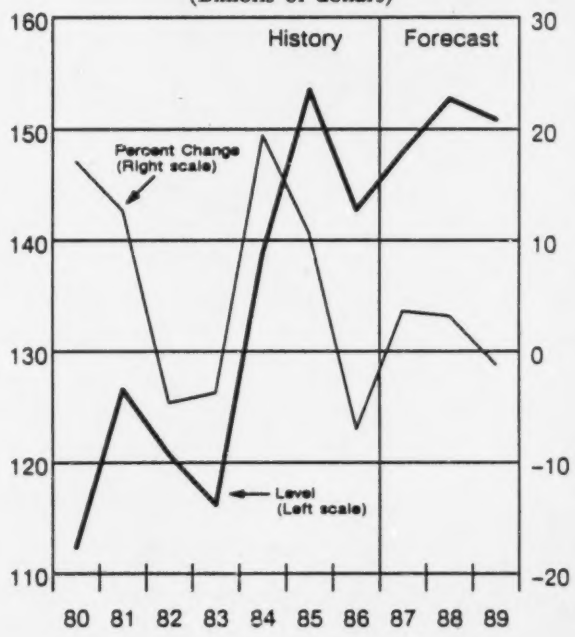


Chart 6
Investment in New Plants and Equipment
All Manufacturing Industries
(Billions of dollars)



Auto and truck makers posted huge investment increases during 1984 and 1985. Detroit is now saddled with excess capacity and inventory and is forced to offer periodic dealer incentive programs to empty the lots. Consequently, investment slipped 4.6% last year and survey respondents look for a further retrenchment of 9.4% in 1987.

Following up their generally robust sales performance last year, nondurable goods manufacturers again responded to the latest survey with the strong aggregate spending plans for 1987. U.S. chemical companies will lead off with a 9% expected increase, with growth in nearly all product lines. Chemicals posted a $7 billion trade surplus last year; this year's first-quarter surplus already shows a $460 million advance over the year-earlier level. In addition, the chemical industry underwent extensive restructuring in 1985 that has made it leaner, which, combined with still low petroleum feedstock costs and rising product prices, has bolstered profit margins.

Even after investment cuts of 32% in 1986, the petroleum industry still has excess capacity and anticipates further cuts of 3.6% this year. Refiners report a 1.1% decline, while the exploration and drilling companies look toward a 4.8% cutback. Nevertheless, the petroleum industry as a whole plans to increase spending 6.6% in 1988. With any industry, however, investment plans a year out must be considered tentative at best.

Paper and pulp mills, in contrast, are operating very near their preferred rate. With after-tax profits up 13.8% in 1986, this industry plans to increase their capital budgets more than 4% during 1987. Converted paper product makers lead this investment advance.

Textile mills also appear optimistic. As in the paper industry, capacity utilization is near preferred rates and profits rose 67% last year. Cotton weaving mills and yarn and thread mills spearhead the industry's planned increase of 4.9%. The "other" nondurable goods industries also reported robust investment plans for the year; with spending in printing and publishing up 34.5%, apparel up 24.6%, and tobacco up 24.1%.

Investment increases in the large nonmanufacturing sector are planned almost across the board. Airlines cite the largest boost to spending, but their estimate of 33% seems high; they already increased plant and equipment spending 34.4% in 1985 and 30.6% in 1986, and another spending surge this year seems unjustified. The extensive and varied trade and service industries which account for one-third of the nation's total capital investment, look toward 4.9% growth in spending.

Table 3
Durable Indicators
(Billions of dollars*)

	Quarterly					Annual		
	86:1	86:2	86:3	86:4	87:1	1984	1985	1986
Iron & Steel								
Capacity Utilization Rate (%)	66.7	60.0	60.3	62.0	63.0	67.2	67.5	62.3
Shipments	45.0	43.1	41.9	41.0	41.2	51.3	48.1	42.7
New Orders	44.8	41.8	44.7	42.4	40.2	49.9	48.3	43.4
After-Tax Profits	-1.4	-1.6	-8.6	-1.8	NA	-0.4	-1.3	-3.4
Nonferrous Metals								
Capacity Utilization Rate (%)	81.1	80.7	78.3	78.9	80.4	80.4	80.6	79.7
Shipments	49.5	48.5	48.0	48.5	48.2	56.3	51.5	48.6
New Orders	49.7	45.5	47.0	49.5	48.2	55.3	51.0	47.9
After-Tax Profits	0.7	1.0	0.6	0.8	NA	-0.1	-1.0	0.8
Electrical Machinery								
Capacity Utilization Rate (%)	71.6	71.2	71.4	71.7	70.9	79.9	74.7	71.5
Shipments	195.9	200.4	209.3	215.7	214.3	187.4	192.5	205.3
New Orders	198.9	204.0	209.8	216.9	197.8	198.3	200.2	207.4
After-Tax Profits	6.8	9.3	6.0	7.5	NA	8.6	6.9	7.4
Nonelectrical Machinery								
Capacity Utilization Rate (%)	72.8	70.9	70.9	69.9	69.8	76.3	75.1	71.1
Shipments	207.8	207.1	203.0	204.1	202.4	210.0	215.0	205.5
New Orders	200.8	197.2	201.3	197.7	200.2	215.0	213.0	199.3
After-Tax Profits	5.5	8.8	6.6	5.8	NA	12.0	9.7	6.7
Autos, Trucks & Parts								
Capacity Utilization Rate (%)	82.3	79.8	79.4	77.8	82.1	81.6	82.9	79.8
Shipments	193.5	193.0	191.9	202.5	209.0	179.7	188.6	195.2
After-Tax Profits	10.0	11.6	5.1	7.1	NA	10.6	9.1	8.4
Aerospace								
Shipments	89.3	98.0	95.9	112.6	97.1	78.8	90.8	98.9
New Orders	111.4	89.4	101.5	116.0	97.6	91.9	100.8	104.6
After-Tax Profits	4.2	4.6	4.0	-0.3	NA	3.6	3.3	3.1
Fabricated Metals								
Capacity Utilization Rate (%)	81.2	80.2	79.5	80.7	80.6	77.3	80.5	80.4
Shipments	135.2	137.3	135.7	135.2	136.3	135.9	139.6	135.8
New Orders	133.1	136.5	133.4	136.3	134.7	136.9	137.5	134.8
After-Tax Profits	3.7	4.7	3.1	3.0	NA	4.6	3.4	3.6
Instruments								
Capacity Utilization Rate (%)	81.9	80.5	80.3	79.2	79.2	84.4	82.5	80.5
Shipments	60.0	59.9	60.8	62.5	61.2	59.4	61.0	60.8
New Orders	59.8	59.4	61.4	61.5	62.1	60.0	60.9	60.5
After-Tax Profits	-0.5	2.9	4.0	-1.9	NA	4.2	3.6	1.1
Stone, Clay & Glass								
Capacity Utilization Rate (%)	82.6	82.9	82.0	81.5	81.9	81.3	80.9	82.3
Shipments	57.1	56.8	55.9	57.4	60.9	53.4	55.1	56.8
New Orders	57.3	56.5	55.9	57.0	60.7	53.8	55.3	56.7
After-Tax Profits	0.8	2.8	2.8	2.5	NA	1.9	1.6	2.2

a. Shipments and new orders are at seasonally adjusted annual rates. Profits are at annual rates but not seasonally adjusted.

Table 4
Nondurables Indicators
(Billions of dollars)

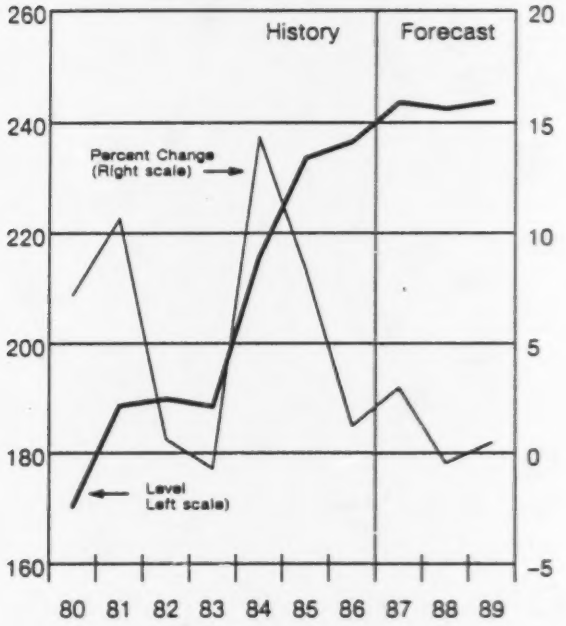
	Quarterly					Annual		
	86:1	86:2	86:3	86:4	87:1	1984	1985	1986
Chemicals								
Capacity Util. Rate (%)	79.9	80.4	80.8	80.1	82.2	76.8	78.5	80.3
Shipments	198.7	196.7	196.6	199.7	205.7	198.3	196.9	197.9
After-Tax Profits	12.5	14.9	15.4	8.2	NA	13.9	9.5	12.8
Paper								
Capacity Util. Rate (%)	93.9	94.7	96.3	96.9	96.3	93.3	91.7	95.5
Shipments	97.5	101.3	106.9	110.1	112.8	94.8	93.4	103.9
After-Tax Profits	2.4	3.7	3.3	3.8	NA	3.0	2.9	3.3
Rubber & Plastics								
Capacity Util. Rate (%)	85.9	84.8	86.9	87.9	86.6	89.0	87.0	86.4
Shipments	72.2	73.0	70.4	72.8	78.8	69.5	71.3	72.1
After-Tax Profits	1.5	2.4	3.7	1.3	NA	2.3	1.6	2.2
Petroleum								
Capacity Util. Rate (%)	89.3	91.2	91.0	90.4	90.7	83.3	84.5	90.5
Shipments	153.6	131.3	117.4	115.1	121.2	189.1	179.1	129.4
After-Tax Profits	10.8	16.9	1.4	6.5	NA	17.2	12.7	8.9
Food & Beverage								
Capacity Util. Rate (%)	78.7	79.0	78.8	78.2	78.1	79.8	79.1	78.7
Shipments	305.6	310.1	319.2	323.8	323.9	300.0	301.6	314.7
Textiles								
Capacity Util. Rate (%)	88.0	90.4	92.6	94.7	94.8	85.5	84.0	91.4
Shipments	53.6	53.2	55.7	56.0	55.0	55.5	53.2	54.6
After-Tax Profits	1.7	2.1	2.0	2.2	NA	1.6	1.2	2.0

a. Shipments are at seasonally adjusted annual rates. Profits are at annual rates but not seasonally adjusted.

Of the gainers, heavy construction contractors anticipate an 11.0% increase; food stores, a 31.2% increase; insurance carriers, a 10.5% increase; business services, an 11.7% increase; and general merchandise stores a 1.1% increase. Of those businesses scaling back, department stores report a 9.8% cutback; hotels and motels, 9.8%; health services, 7.3%; and computer and data processing services, 1.3%.

Public utility spending will also be mixed, with electric utilities expecting investment cuts of 6.9% this year and further cutbacks of 8.8% in 1988 and 8.7% in 1989. Gas utilities, though, are optimistic despite weak sales in 1986. After a 1.6% investment cut last year, gas utilities expect to increase capital expenditures 10.4% in 1987. Electric companies made large capacity additions during the late 1970s and early 1980s; they now face overcapacity along with weaker-than-expected demand and the question mark hanging over their nuclear power plants.

Chart 7
Investment in New Plants and Equpment
All Nonmanufacturing Industries
(Billions of dollars)



Overall, U.S. businesses project investment for plant and equipment to nudge up another 0.9% in 1988 before slipping 0.2% in 1989. As noted above, however, it is too early to consider these projections as anything but tentative.

NOTES ON THE SURVEY

The results discussed here are based on the responses of 463 firms to the DRI/McGraw-Hill survey taken in April and May. These firms account for 22.8% of all 1986 capital spending in the country (Table IX). Firms supplied current-dollar estimates of future capital spending, as well as actual investment in 1986.

From these responses, percentage changes for 1986-87 and 1988 were calculated. Firms with a disproportionate share of the sample's capital spending and/or extreme percentage changes were removed from the sample when calculating industry growth rates. These growth rates were then applied to the prior period's level of the population excluding outliers. Spending by outliers for the current period is then added back in. In cases where a share or rate is provided, individual responses are weighted by the firms share of the sample's capital spending. Extreme responses are removed from the sample when computing industry answers.

Table 5
Nonmanufacturing Indicators

	Quarterly					Annual		
	86:1	86:2	86:3	86:4	87:1	1984	1985	1986
Mining								
Bituminous Coal Production --Thousand short tons	914,148	882,808	877,556	863,068	860,392	891,760	878,930	884,395
Oil & Gas Well Footage Drilled --Thousands of feet	256,378	146,030	112,021	71,719	NA	363,850	307,719	146,537
Refiners' Acquisition Price of Oil--Dollars	20.49	13.05	12.35	13.36	16.57	28.53	26.66	14.81
Railroads								
Revenue Freight Ton-Miles --Billions of ton miles	874.8	863.6	873.2	886.4	868.4	921.8	875.8	874.5
New Freight Cars, Unfilled Orders --Thousands of cars	3.4	4.2	3.7	2.7	NA	5.2	1.8	2.7
Airlines								
Passenger-Miles Revenue--Billions	327.3	364.0	409.7	NA	NA	298.2	331.7	NA
Passenger Load Factor--(%)	59.1	60.4	63.6	NA	NA	59.1	61.4	NA
Electric Utilities								
Electricity Output --Billions of kw-hr	2,414	2,514	2,511	2,517	2,468	2,417	2,470	2,489
Electric Utility Revenues --Millions of dollars	150,437	142,010	172,848	145,082	NA	142,259	149,373	152,594
Gas Utilities								
Natural Gas Sales--Trillion btu	17,521	8,325	6,169	11,037	NA	13,335	12,724	10,763
Gas Utility Revenues --Millions of dollars	84,603	38,451	27,430	50,676	NA	67,510	63,316	50,290
Communications								
Commercial Construction --Billions of 1982 dollars	55.1	50.1	50.4	47.8	45.2	44.2	53.1	50.8
Consumer Spending on Financial Services --Billions of 1982 dollars	101.2	103.0	104.5	105.7	106.5	91.8	95.5	103.6
Trade and Services								
Retail Sales--Billions of dollars, SA	1,413.0	1,430.7	1,486.6	1,485.6	1,472.3	1,286.1	1,378.8	1,454.0
Consumer Spending On Personal & Business Services	344.3	344.5	343.2	347.4	355.5	309.6	326.1	344.8
Medical Services --Billions of 1982 dollars	243.0	245.0	246.7	248.8	250.8	230.8	237.8	245.9

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NOTE: The other durables category listed in the tables includes lumber, furniture, jewelry, toys, and transportation equipment other than autos and aerospace. Other nondurables includes apparel, tobacco, printing and publishing, and leather. The trade and services category includes retail and wholesale trade, banking, holding companies, insurance companies, hotels, laundries, construction companies, and personal and business services. Other transportation consists primarily of trucking companies.

Table I
Plans for Capital Spending

Industry	Level				Percent Change		
	1986	1987	1988	1989	1987	1988	1989
Iron & Steel.....	3.35	4.02	4.28	4.24	20.3	6.4	-1.0
Nonferrous Metals.....	1.92	2.16	2.85	2.85	12.6	31.5	0.1
Electrical Machinery....	14.09	14.39	14.27	13.16	2.1	-0.9	-7.8
Non-Electrical Machinery	13.62	14.71	15.21	15.34	8.0	3.4	0.9
Autos, Trucks & Parts...	13.96	12.65	12.58	11.75	-9.4	-0.5	-6.7
Aerospace.....	3.80	4.07	3.86	3.75	7.0	-5.1	-2.8
Fabricated Metals.....	4.01	3.44	3.55	3.61	-14.2	3.3	1.8
Instruments (a).....	2.47	2.69	2.64	2.80	8.6	-1.5	5.8
Stone, Clay & Glass.....	3.13	3.15	3.20	3.41	0.8	1.6	6.5
Other Durables (b).....	8.73	9.47	10.33	10.03	8.4	9.2	-2.9
TOTAL DURABLES.....	69.08	70.75	72.78	70.95	2.4	2.9	-2.5
Chemicals.....	16.75	18.26	20.45	20.80	9.0	12.0	1.7
Paper & Pulp.....	8.77	9.12	9.44	9.13	4.1	3.5	-3.3
Rubber & Plastic.....	3.92	2.94	3.37	2.13	-25.1	14.6	-36.6
Petroleum.....	18.13	17.47	18.62	18.65	-3.6	6.6	0.1
Food & Beverage	10.56	12.01	12.50	12.50	13.8	4.0	0.0
Textiles.....	1.66	1.75	1.87	1.99	4.9	6.8	6.6
Other Nondurable (c)...	13.72	15.67	13.72	14.75	13.0	-12.4	7.5
TOTAL NONDURABLES.....	73.64	77.22	79.96	79.95	4.9	3.5	0.0
ALL MANUFACTURING.....	142.73	147.97	152.74	150.90	3.7	3.2	-1.2
Mining.....	11.25	11.35	11.82	13.35	0.9	4.2	12.9
Railroads.....	6.64	6.67	7.33	7.36	0.5	9.9	0.3
Airlines.....	6.26	8.32	7.25	6.01	32.8	-12.8	-17.2
Other Transportation....	5.86	5.42	5.14	5.55	-7.5	-5.3	8.0
Electric Utilities.....	33.93	31.60	28.82	26.32	-6.9	-8.8	-8.7
Gas & Other Utilities...	12.51	13.82	13.03	13.70	10.4	-5.7	5.2
Communications.....	32.94	33.04	34.13	34.15	0.3	3.3	0.1
Trade & Services.....	127.17	133.43	135.04	137.33	4.9	1.2	1.7
ALL NONMANUFACTURING....	236.55	243.64	242.57	243.76	3.0	-0.4	0.5
ALL BUSINESS.....	379.27	391.61	395.31	394.66	3.3	0.9	-0.2

a. Data for 1986 are from the November 1986 DRI/McGraw-Hill Survey.

b. The other durables category includes furniture and fixtures, lumber and products, miscellaneous manufacturing, ships and boats, railroad equipment, and miscellaneous transportation equipment. This includes SIC codes 24,25,39,373,374,375 and 379

c. The other nondurables category inc[illegible] tobacco, apparel,printing and publishing, and leather and products. This includes SIC codes 21, 23, 27 and 31.

Table II
Expansion versus Modernization
(Percent of capital spending)

Industry	Actual 1986		Planned 1987		Planned 1988	
	Expans.	Replace. Modern.	Expans.	Replac. Modern.	Expans.	Replace. Modern.
Iron & Steel	9	91	2	98	2	98
Nonferrous Metals	8	92	0	100	1	99
Electrical Machinery	24	76	26	74	26	74
Non-Electrical Machinery	20	80	17	83	43	57
Autos, Trucks & Parts	40	60	35	65	25	75
Aerospace	20	80	22	78	23	77
Fabricated Metals	11	89	7	93	11	89
Instruments	8	92	14	86	49	51
Stone, Clay & Glass	9	91	6	94	6	94
Other Durables	30	70	30	70	36	64
TOTAL DURABLES	24	76	22	78	27	73
Chemicals	40	60	39	61	40	60
Paper & Pulp	28	72	18	82	25	75
Rubber & Plastic	74	26	79	21	79	21
Petroleum	26	74	23	77	20	80
Food & Beverage	26	74	39	61	40	60
Textiles	10	90	4	96	2	98
Other Nondurables	28	72	35	65	49	51
TOTAL NONDURABLES	32	68	33	67	36	64
ALL MANUFACTURING	28	72	27	73	31	69
Mining	42	58	43	57	36	64

Table III
Buildings, Motor Vehicles, and Other Machinery and Equipment
(Percent of capital spending)

Industry	Actual 1986			Planned 1987			Planned 1988		
	Buildings	Motor Vehicles	Machinery/ Equipment	Buildings	Motor Vehicles	Machinery/ Equipment	Buildings	Motor Vehicles	Machinery/ Equipment
Iron & Steel	2	0	98	1	0	99	1	0	98
Nonferrous Metals	15	1	85	6	3	91	6	3	90
Electrical Machinery	16	3	82	19	2	79	22	2	76
Non-Electrical Machinery	13	3	83	13	3	83	14	3	82
Autos, Trucks & Parts	9	0	91	9	0	91	9	0	91
Aerospace	25	2	72	19	3	78	17	1	81
Fabricated Metals	13	4	84	15	3	82	17	3	80
Instruments	16	1	83	15	2	84	29	5	66
Stone, Clay & Glass	6	3	91	8	3	89	8	3	89
Other Durables	10	5	85	10	5	85	11	4	85
TOTAL DURABLES	12	2	85	13	2	85	14	2	84
Chemicals	11	1	88	10	1	89	10	1	89
Paper & Pulp	11	0	89	10	1	90	7	0	93
Rubber & Plastic	24	1	76	28	0	71	20	1	80
Petroleum	4	1	96	4	1	95	9	3	87
Food & Beverage	31	6	63	24	5	71	17	4	79
Textiles	6	3	91	4	1	95	4	2	93
Other Nondurables	36	4	61	39	3	58	51	3	46
TOTAL NONDURABLES	17	2	81	17	2	81	18	2	80
ALL MANUFACTURING	15	2	83	15	2	83	16	2	82
Mining	1	1	98	1	1	99	0	0	99
Railroads	7	3	90	8	3	89	7	2	91
Airlines	15	5	80	25	5	70	15	5	80
Other Transportation	27	32	41	15	33	52	22	44	34
Electric Utilities	12	1	87	11	1	88	9	2	89
Gas Utilities	35	2	63	27	2	71	35	4	62
Communications	6	3	92	6	2	92	5	3	92
Trade & Services	34	4	62	40	3	57	36	4	60
ALL NONMANUFACTURING	24	4	72	27	3	70	25	4	71
ALL BUSINESS	21	3	76	22	3	75	22	3	75

Table IV
Capacity Expansion
(1977=100)

Industry	Level				Percent Change		
	1985	1986	1987	1988	1985-86	1986-87	1987-88
Iron & Steel	93	87	89	91	-6.2	1.6	2.2
Nonferrous Metals	108	108	113	119	0.1	5.0	5.0
Electrical Machinery	167	171	176	182	2.4	2.8	3.3
Non-Electrical Machinery	126	128	131	135	1.9	1.8	2.9
Autos, Trucks & Parts	109	114	120	126	5.0	5.0	5.0
Other Transportation Equip.	137	143	151	154	4.7	5.1	2.4
Fabricated Metals & Instruments	148	146	156	168	-1.2	6.7	7.7
Stone, Clay & Glass	126	131	136	143	3.8	4.1	4.7
Chemicals	128	133	139	146	3.9	4.5	5.0
Paper & Pulp	128	139	145	151	8.2	4.7	3.8
Rubber & Plastic	115	122	131	147	6.0	7.9	11.8
Petroleum	96	97	98	98	1.1	0.7	0.0
Food & Beverage	157	158	162	170	0.7	2.4	4.7
Textiles	129	137	138	140	5.9	1.0	1.5
Miscellaneous Manufacturing	122	131	141	152	7.2	8.1	7.5
ALL MANUFACTURING	131	135	142	149	3.2	4.6	5.1
Electric & Gas Utilities	111	113	117	119	1.7	4.1	1.4

Table V
Capacity Utilization Rates
(Percent)

Industry	Year-end 1985	Year-end 1986	Point Difference 1985-86	Preferred Rate of Operation
Iron & Steel	60.2	85.2	25.0	89.3
Nonferrous Metals	98.3	85.1	-13.2	96.2
Electrical Machinery	76.1	80.3	4.2	91.3
Non-Electrical Machinery	67.0	73.4	6.4	84.7
Autos, Trucks & Parts	96.1	99.8	3.7	90.0
Aerospace	84.6	82.7	-1.9	90.0
Fabricated Metals	68.8	73.6	4.8	87.2
Instruments	75.9	76.0	0.1	91.2
Stone, Clay & Glass	87.0	82.6	-4.4	93.7
Other Durables	76.7	81.9	5.2	90.2
TOTAL DURABLES	78.3	80.8	2.5	89.2
Chemicals	72.2	79.2	7.0	84.3
Paper & Pulp	90.7	92.6	1.9	96.1
Rubber & Plastic	89.5	89.1	-0.4	95.2
Petroleum	87.4	87.9	0.5	95.7
Food & Beverage	87.3	81.8	-5.5	83.7
Textiles	84.8	95.9	11.1	98.7
Other Nondurables	88.0	79.8	-8.2	91.9
TOTAL NONDURABLES	77.8	83.6	5.8	89.6
ALL MANUFACTURING	77.2	82.0	4.8	89.4
Electric Utilities	67.2	70.9	3.7	81.8
Gas Utilities	83.3	86.4	3.1	93.1

Table VI
Sales Expectations
(Billions of dollars)

Industry	1986 Actual	1987 Expected	1986-87 % Change
Iron & Steel	42.7	45.4	6.3
Nonferrous Metals	48.6	54.3	11.8
Electrical Machinery	205.3	215.5	5.0
Non-Electrical Machinery	205.5	204.2	-0.6
Autos, Trucks & Farts	195.2	NA	NA
Aerospace	98.9	99.2	0.3
Fabricated Metals	135.8	145.7	7.2
Instruments	60.8	65.6	7.8
Stone, Clay & Glass	56.8	60.7	6.9
Other Durables	151.4	168.0	11.0
TOTAL DURABLES	1,201.2	1,260.5	4.9
Chemicals	197.9	211.9	7.1
Paper & Pulp	103.9	113.7	9.4
Rubber & Plastic	72.1	81.0	12.3
Petroleum	129.4	135.3	4.6
Food & Beverage	314.7	336.3	6.9
Textiles	54.6	57.6	5.5
Other Nondurables	198.7	211.2	6.3
TOTAL NONDURABLES	1,071.4	1,147.0	7.1
ALL MANUFACTURING	2,272.5	2,407.5	5.9
Mining	NA	NA	10.0
Railroads	NA	NA	1.7
Airlines	NA	NA	NA
Other Transportation	NA	NA	5.7
Electric Utilities	NA	NA	2.0
Gas Utilities	NA	NA	-2.1
Communications	NA	NA	3.7
Trade & Services	NA	NA	10.1
ALL NONMANUFACTURING	NA	NA	7.0
ALL BUSINESS	NA	NA	6.6

Table VII
Real Sales Expectations
(Billions of 1986 dollars)

Industry	1986	1987 Expected	1986-87 % Change
Iron & Steel	42.7	45.4	6.7
Nonferrous Metals	48.6	54.3	9.4
Electrical Machinery	205.3	215.5	1.8
Non-Electrical Machinery	205.5	204.2	-3.1
Autos, Trucks & Parts	195.2	NA	NA
Aerospace	98.9	99.2	-3.5
Fabricated Metals	135.8	145.7	6.7
Instruments	60.8	65.6	5.3
Stone, Clay & Glass	56.8	60.7	4.2
Other Durables	151.4	168.0	2.9
TOTAL DURABLES	1,201.2	1,260.5	1.6
Chemicals	197.9	211.9	5.0
Paper & Pulp	103.9	113.7	2.8
Rubber & Plastic	72.1	81.0	9.7
Petroleum	129.4	135.3	0.6
Food & Beverage	314.7	336.3	0.7
Textiles	54.6	57.6	1.8
Other Nondurables	198.7	211.2	0.4
TOTAL NONDURABLES	1,071.4	1,147.0	2.3
ALL MANUFACTURING	2,272.5	2,407.5	1.9
Mining	NA	NA	7.6
Railroads	NA	NA	1.2
Airlines	NA	NA	NA
Other Transportation	NA	NA	1.7
Electric Utilities	NA	NA	0.3
Gas Utilities	NA	NA	-0.8
Communications	NA	NA	5.2
Trade & Services	NA	NA	5.8
ALL NONMANUFACTURING	NA	NA	3.6
ALL BUSINESS	NA	NA	2.8

Table VIII
Inflation Expectations
(Percentage change)

Industry	Expected %Change, 1986-87	
	Plant & Equipment Prices	Product Prices
Iron & Steel	4.2	-0.4
Nonferrous Metals	0.6	2.2
Electrical Machinery	3.2	3.1
Non-Electrical Machinery	2.4	2.5
Autos, Trucks & Parts	NA	NA
Aerospace	4.3	3.9
Fabricated Metals	3.1	0.5
Instruments	3.1	2.4
Stone, Clay & Glass	3.1	2.6
Other Durables	3.8	7.9
TOTAL DURABLES	3.1	3.3
Chemicals	3.8	2.0
Paper & Pulp	3.0	6.4
Rubber & Plastic	3.7	2.4
Petroleum	3.6	4.0
Food & Beverage	3.5	6.2
Textiles	7.7	3.6
Other Nondurables	5.9	5.8
TOTAL NONDURABLES	4.1	4.8
ALL MANUFACTURING	3.7	4.0
Mining	2.3	2.5
Railroads	3.3	0.5
Airlines	0.0	NA
Other Transportation	3.6	4.0
Electric Utilities	3.8	1.6
Gas & Other Utilities	3.7	-1.4
Communications	2.3	-1.5
Trade & Services	4.2	4.4
ALL NONMANUFACTURING	3.1	3.3
ALL BUSINESS	3.3	3.8

Table IX
Survey Sample Size

Industry	Percentage of Capital Spending Covered by Survey
Iron & Steel	4.6
Nonferrous Metals	33.2
Electrical Machinery	23.8
Non-Electrical Machinery	9.1
Autos, Trucks & Parts	77.5
Aerospace	73.1
Fabricated Metals	8.8
Instruments	56.2
Stone, Clay & Glass	26.2
Other Durables	5.2
TOTAL DURABLES	31.8
Chemicals	26.6
Paper & Pulp	14.9
Rubber & Plastic	2.5
Petroleum	57.4
Food & Beverage	2.5
Textiles	3.8
Other Nondurables	6.6
TOTAL NONDURABLES	23.8
ALL MANUFACTURING	27.7
Mining	4.8
Railroads	29.8
Airlines	35.1
Other Transportation	3.1
Electric Utilities	50.9
Gas Utilities	7.5
Communications	58.0
Trade & Services	3.7
ALL NONMANUFACTURING	19.8
ALL BUSINESS	22.8

Table X
Capital Spending Plans of the Petroleum Industry
(Millions of dollars)

Function	Level				Percent Change		
	1987	1987	1988	1989	1987	1988	1989
Exploration and Production	19,775	18,816	19,644	19,687	-4.8	4.4	0.2
Refining	2,478	2,450	2,618	2,597	-1.1	6.9	-0.8
Petrochemicals	861	958	991	NC	11.3	3.4	NC
Transportation (a)	3,815	2,799	2,170	2,169	-26.6	-22.5	-0.1
Marketing	3,526	4,138	4,329	4,331	17.4	4.6	0.0
Other (b)	4,074	3,627	3,881	3,886	-11.0	7.0	0.1
TOTAL	34,529	32,788	33,633	NC	-5.0	2.6	NC

(a.) Includes oil pipelines; does not include gas pipelines.
(b.) Includes coal mining.

Table XI
Capital Spending Plans of the Mining Industry
(Millions of dollars)

Industry	Level				Percent Change		
	1986	1987	1988	1989	1987	1988	1989
Nonmetallic....	1,067	1,220	1,400	1,586	14.3	14.8	13.3
Nonferrous.....	865	919	953	NC	6.3	3.7	NC
Iron Ore.....	101	34	84	NC	-66.7	150.0	NC
Coal.....	3,361	2,683	2,683	2,547	-20.2	0.0	-5.1
MINING INDUSTRY	5,394	4,855	5,120	NC	-10.0	5.5	NC

Table XII
Capital Spending in the Chemical Process Industry
(Billions of dollars)

Industry	1986	1987	1988	1989
Chemicals.....	16.75	18.26	20.45	20.80
Petrochemicals (a)	0.86	0.96	0.99	NC
Paper & Pulp.....	8.77	9.12	9.44	9.13
Rubber & Plastics..	3.92	2.94	3.37	2.13
Stone, Clay & Glass	3.13	3.15	3.20	3.41
Petroleum Refining.	2.48	2.45	2.62	2.60
Nonferrous Metals..	1.92	2.16	2.85	2.85
Coal Products.....	0.78	0.63	0.62	0.59
Food & Beverage....	2.85	2.65	2.50	2.25
Textiles.....	0.33	0.35	0.37	0.40
Other CPI.....	1.38	1.56	1.36	1.47
Total CPI.....	43.17	44.23	47.78	NC

a. Petrochemical expenditures are for the petroleum industry alone.

Table XIII
Capital Spending Plans for the Energy Industries
(Millions of dollars)

Industry	1986	1987	1988	1989
Coal Mininga.....	3,361	2,683	2,683	2,547
Electric Utilities.....	33,928	31,602	28,824	26,316
Gas Utilities.....	12,510	13,816	13,029	13,702
Petroleum Industry.....	34,529	32,788	33,633	NC
Exploration & Production	19,775	18,816	19,644	19,687
Transportation.....	3,815	2,799	2,170	2,169
Refining.....	2,478	2,450	2,618	2,597
Petrochemicals.....	861	958	991	NC
Marketing.....	3,526	4,138	4,329	4,331
Other (a).....	4,074	3,627	3,881	3,886
Total Energy Industries...	84,328	80,889	78,169	NC
Total All Industries.....	379,270	389,404	392,075	390,494
Energy Share (%).....	22	21	20	NC

a. There is some duplication of investment in other petroleum and coal mining.

Table XIV
Industry Detail Data

Industry	Capital Spending % Change 1987	1988	1989
Durables			
Iron & Steel (a)	99.2	9.1	-0.9
Nonferrous Metals (a)	16.4	11.0	0.0
Primary Nonferrous Metals	15.3	10.9	NC
Nonferrous Rolling and Drawing	100.0	24.5	0.0
Electrical Machinery (a)	-9.8	-1.5	-7.8
Electric Distributing Equipment	-15.4	0.0	0.3
Electrical Industrial Apparatus	8.7	5.3	18.5
Household Appliances	89.7	-25.4	-27.7
Electric Lighting and Wiring	71.7	-47.1	22.2
Communication Equipment	27.2	-3.3	-22.0
Electronic Components	-4.6	2.8	17.2
Misc. Electrical	14.3	13.8	4.3
Non-Electrical Machinery (a)	8.8	-4.9	-10.4
Engines and Turbines	-28.1	-16.0	15.4
Farm Equipment	15.2	2.6	0.6
Construction, Mining, Materials Handling Eq.	41.2	-0.7	-14.8
Metalworking Machinery	8.7	-9.7	8.1
Special Industry Machinery	13.2	319.8	-33.7
General Industrial Machinery	-8.8	2.9	5.1
Office, Computing Machinery	29.0	-11.9	-1.8
Refrigeration and Service Industry Machinery	39.1	-0.3	10.3
Autos, Trucks & Parts (a)	-30.8	-6.0	-7.0
Aerospace (a)	5.8	-5.2	-2.9
Fabricated Metals (a)	-14.4	3.0	2.1
Cutlery, Hand Tools, Hardware	17.3	22.4	0.5
Plumbing and Heating Eq.	-43.1	-50.0	0.0
Fabricated Structural Metal	-19.4	0.0	2.4
Screw Machine Products	24.3	-4.8	0.0
Misc. Fabricated Metals	-9.2	2.9	3.1
Instruments (a)	7.0	-1.2	5.8
Engineering & Scientific Instruments	3.4	12.9	11.6
Optical Instruments and Lenses	35.5	-21.2	29.3
Medical Instruments and Supplies	10.0	138.3	-66.7
Stone, Clay & Glass (a)	1.3	1.6	7.4
Products of Purchased Glass	-34.0	-25.6	-0.9
Cement, Hydraulic	11.8	12.6	-25.3
Structural Clay Products	-13.9	NC	0.0
Misc. Nonmetallic Mineral Products	16.1	12.3	10.2
Other Durables (a)	43.9	0.6	-6.4
Lumber	44.5	-0.2	-8.8
Furniture	-51.7	87.5	-39.6
Ships & Boats	-2.5	9.6	0.0
Nondurables			
Chemicals (a)	8.6	11.8	1.9
Industrial Inorganic Chemicals	-11.7	-0.5	9.2
Plastics Materials and Synthetics	15.8	36.4	-6.7
Drugs	4.0	6.3	9.4
Soap, Cleaners, & Toilet Goods	34.8	-7.3	34.1
Paints	32.0	-13.3	7.7
Agricultural Chemicals	14.4	69.0	15.8
Misc. Chemicals	5.8	-4.5	-12.2
Paper & Pulp (a)	6.3	5.2	-3.1
Paper Mills	35.4	4.7	1.5
Converted Paper Prod.	115.4	12.0	-75.0
Paperboard Containers	9.1	75.0	-23.8
Rubber & Plastic (a)	10.2	12.4	7.5
Miscellaneous Plastics Products	25.0	11.4	13.7
Petroleum (a)	-3.7	2.8	0.0
Food & Beverage (a)	13.8	4.0	0.0
Bakery Products	-7.6	-5.9	-12.5
Beverages	11.6	14.4	NC
Textiles (a)	5.1	6.9	6.6
Weaving Mills, Cotton	6.1	-2.7	0.0
Knitting Mills	-16.9	10.0	9.1
Yarn and Thread Mills	100.0	0.0	NA
Other Nondurables (a)	27.4	14.5	-20.4
Tobacco	24.1	14.5	-20.0
Apparel	24.8	-2.8	2.6
Printing and Publishing	34.5	19.3	-26.4
Leather	-19.2	0.0	5.6

Table XIV (Continued)

Industry	Capital Spending % Change 1987	1988	1989
Nonmanufacturing			
Mining (a)	32.0	6.6	6.3
Metal Mining	56.5	7.5	NC
Anthracite	-3.5	NA	NA
Coal Mining	-3.5	NA	NA
Bituminous Coal	30.0	16.1	18.7
Oil & Gas Extraction	8.9	1.1	5.0
Oil Well Services	-59.5	37.0	25.0
Stone & Earth Minerals	200.0	0.0	0.0
Railroads (a)	0.4	10.0	-6.6
Airlines (a)	32.8	-12.8	-17.2
Other Transportation (a)	-7.7	-5.2	8.1
Trucking and Warehousing	12.2	-1.8	6.1
River & Canal Transportation	-36.6	NA	NA
Pipelines	119.9	-59.4	-6.3
Freight Trans., Rail Car Rent	18.0	23.7	22.4
Electric Utilities (a)	-8.3	-8.7	-9.3
Gas & Other Utilities (a)	30.9	10.0	1.6
Communications (a)	2.1	3.7	0.6
Telephone Communications	2.3	4.1	0.6
Trade & Services (a)	10.3	2.9	10.6
General Building Contractors	1.4	11.1	10.0
Heavy Construction Contractors	11.0	-19.5	0.0
Retail and Whole. Trade	7.9	-1.3	-4.3
Hardware, Plumbing Eq.--Whole	137.1	-12.6	-24.6
General Merchandise Stores	1.1	-1.0	6.5
Department Stores	-9.8	-11.6	49.5
Food Stores	31.2	9.7	-16.4
Finance	13.0	2.3	1.6
Insurance Carriers	10.5	1.6	-2.5
Personal & Business Services	12.9	9.1	25.0
Hotels and Motels	-9.8	-20.2	-44.9
Business Services	11.7	18.3	-9.8
Computer and Data Processing Services	-1.3	52.8	-15.4
Miscellaneous Business Services	7.0	-11.0	-1.0
Amusement & Recreations Services	-62.5	0.0	0.0
Health Services	-7.3	-8.1	-5.3
Educational Services	185.7	-49.8	12.0
Miscellaneous Professional Services	-52.4	-12.0	1.5

a. Percentage changes in this report are different than those reported in table 1 due to the treatment of outliers. In table 1, the dollar spending of 'outliers' is re-included when going from sample percentage change to the level of industry spending.

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NO. G _____
GENERAL

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Lexington, Massachusetts 02173

BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1987-1989

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charges to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1986, please report spending on a comparable basis for all years.

1. How much did your company invest in new plants and equipment in the U.S. in 1986, and how much does it plan to invest (inflation included) in 1987-89?

1986	1987	1988	1989
$	$	$	$

If your answers omit 000's or 000,000's please indicate : _____

2. Of the total amount invested in new plants and equipment, what percent was (will be) for :	1986	1987	1988
Buildings	____%	____%	____%
Machinery & Equipment	____%	____%	____%
Motor Vehicles	____%	____%	____%
	100 %	100 %	100 %
Of the total invested, what percent was (will be) for expansion?	____%	____%	____%
Of the total invested, what percent was (will be) for employee safety & health?	____%	____%	____%
Of the total invested, what percent was (will be) for :			
Air Pollution Control	____%	____%	____%
Water Pollution Control	____%	____%	____%
Solid Waste Pollution Control	____%	____%	____%
3. If your firm is in manufacturing or mining : How much did (will) your company's capacity, measured in terms of physical volume, increase (decrease)? Please show year-end vs. year-end changes (year-end 1985 to year-end 1986 for the 1986 column, for example).	____%	____%	____%
At the end of 1986, at what rate of capacity was your company operating?	____%		
What is your firm's preferred rate of operation?	____%		

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NO. RR _____
RAILROADS

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BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1987-1989

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charges to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1986, please report spending on a comparable basis for all years.

1. How much did your company invest in new plants and equipment in the U.S. in 1986, and how much does it plan to invest (inflation included) in 1987-89?

1986	1987	1988	1989
$	$	$	$

If your answers omit 000's or 000,000's please indicate : _____

2. Of the total amount invested in new plants and equipment, what percent was (will be) for :

	1986	1987	1988
Buildings	____%	____%	____%
Machinery & Equipment	____%	____%	____%
Motor Vehicles	____%	____%	____%
	100 %	100 %	100 %
Of the total invested, what percent was (will be) for employee safety & health?	____%	____%	____%
Of the total invested, what percent was (will be) for :			
Air Pollution Control	____%	____%	____%
Water Pollution Control	____%	____%	____%
Solid Waste Pollution Control	____%	____%	____%

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NO. S _____

TRADE & SERVICES

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Lexington, Massachusetts 02173

BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1987-1989

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charges to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1986, please report spending on a comparable basis for all years.

1. How much did your company invest in new plants and equipment in the U.S. in 1986, and how much does it plan to invest (inflation included) in 1987-89?

1986	1987	1988	1989
$	$	$	$

If your answers omit 000's or 000,000's please indicate : _____

2. Of the total amount invested in new plants and equipment, what percent was (will be) for :

	1986	1987	1988
Buildings	____%	____%	____%
Machinery & Equipment	____%	____%	____%
Motor Vehicles	____%	____%	____%
	100 %	100 %	100 %

Of the total invested, what percent was (will be) for employee safety & health?

1986	1987	1988
____%	____%	____%

Of the total invested, what percent was (will be) for :

	1986	1987	1988
Air Pollution Control	____%	____%	____%
Water Pollution Control	____%	____%	____%
Solid Waste Pollution Control	____%	____%	____%

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NO. A _____
AUTOS, TRUCKS, & PARTS

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BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1987-1989

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charges to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1986, please report spending on a comparable basis for all years.

1. How much did your company invest in new plants and equipment in the U.S. in 1986, and how much does it plan to invest (inflation included) in 1987-89?

1986	1987	1988	1989
$	$	$	$

If your answers omit 000's or 000,000's please indicate : _____

2. Of the total amount invested in new plants and equipment, what percent was (will be) for :

	1986	1987	1988
Buildings	____%	____%	____%
Machinery & Equipment	____%	____%	____%
Motor Vehicles	____%	____%	____%
	100 %	100 %	100 %
Of the total invested, what percent was (will be) for expansion?	____%	____%	____%
Of the total invested, what percent was (will be) for employee safety & health?	____%	____%	____%
Of the total invested, what percent was (will be) for :			
Air Pollution Control	____%	____%	____%
Water Pollution Control	____%	____%	____%
Solid Waste Pollution Control	____%	____%	____%

3. How much did (will) your company's capacity, measured in terms of physical volume, increase (decrease)? Please show year-end vs. year-end changes (year-end 1985 to year-end 1986 for the 1986 column, for example).

	1986	1987	1988
	____%	____%	____%
At the end of 1986, at what rate of capacity was your company operating?	____%		
What is your firm's preferred rate of operation?	____%		

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NO. GU_____
GAS UTILITIES

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BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1987-1989

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charges to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1986, please report spending on a comparable basis for all years.

1. How much did your company invest in new plants and equipment in the U.S. in 1986, and how much does it plan to invest (inflation included) in 1987-89?

1986	1987	1988	1989
$	$	$	$

If your answers omit 000's or 000,000's please indicate : _____

	1986	1987	1988
2. Of the total amount invested in new plants and equipment, what percent was (will be) for :			
Buildings	____%	____%	____%
Machinery & Equipment	____%	____%	____%
Motor Vehicles	____%	____%	____%
	100 %	100 %	100 %
Of the total invested, what percent was (will be) for employee safety & health?	____%	____%	____%
Of the total invested, what percent was (will be) for :			
Air Pollution Control	____%	____%	____%
Water Pollution Control	____%	____%	____%
Solid Waste Pollution Control	____%	____%	____%
3. How much did (will) your company increase (decrease) its system's capacity? Please show year-end vs. year-end changes (year-end 1985 to year-end 1986 for the 1986 column, for example).	____%	____%	____%
What percent of your system's maximum capacity were you utilizing for the December 1986 max day?	____%		
What is your firm's preferred rate of operation?	____%		

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NO. EU _____
ELECTRIC UTILITIES

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BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1987-1989

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charges to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1986, please report spending on a comparable basis for all years.

1. How much did your company invest in new plants and equipment in the U.S. in 1986, and how much does it plan to invest (inflation included) in 1987-89?

1986	1987	1988	1989
$	$	$	$

If your answers omit 000's or 000,000's please indicate : _____

	1986	1987	1988
2. Of the total amount invested in new plants and equipment, what percent was (will be) for :			
Buildings	____%	____%	____%
Machinery & Equipment	____%	____%	____%
Motor Vehicles	____%	____%	____%
	100 %	100 %	100 %
Of the total invested, what percent was (will be) for employee safety & health?	____%	____%	____%
Of the total invested, what percent was (will be) for :			
Air Pollution Control	____%	____%	____%
Water Pollution Control	____%	____%	____%
Solid Waste Pollution Control	____%	____%	____%
3. How much did (will) your company's generating capacity increase (decrease)? Please show year-end vs. year-end changes (year-end 1985 to year-end 1986 for the 1986 column, for example).	____%	____%	____%
What percent of your system's maximum generating capacity was reserve margin at:			
Summer Peak	____%		
Winter Peak	____%		
What is your firm's average preferred reserve margin?	____%		

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NO. P _____
PETROLEUM

BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1987-1989

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charges to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1986, please report spending on a comparable basis for all years.(If answers omit 000's or 000,000's please note: _____ .)

1. How much did (will) your company invest (inflation included) in new plants and equipment in the U.S. in 1986-89, and what was (will be) the distribution among the following :

	1986	1987	1988	1989
Production / Exploration	$ _____	$ _____	$ _____	$ _____
Refining	$ _____	$ _____	$ _____	$ _____
Petrochemicals	$ _____	$ _____	$ _____	$ _____
Transportation	$ _____	$ _____	$ _____	$ _____
Marketing	$ _____	$ _____	$ _____	$ _____
Coal Mining	$ _____	$ _____	$ _____	$ _____
Other (please specify)	$ _____	$ _____	$ _____	$ _____
TOTAL	$ _____	$ _____	$ _____	$ _____

2. Of the total amount invested in new plants and equipment, what percent was (will be) for :

	1986	1987	1988
Buildings	_____%	_____%	_____%
Machinery & Equipment	_____%	_____%	_____%
Motor Vehicles	_____%	_____%	_____%
	100 %	100 %	100 %
Of the total invested, what percent was (will be) for expansion?	_____%	_____%	_____%
Of the total invested, what percent was (will be) for employee safety & health?	_____%	_____%	_____%
Of the total invested, what percent was (will be) for :			
Air Pollution Control	_____%	_____%	_____%
Water Pollution Control	_____%	_____%	_____%
Solid Waste Pollution Control	_____%	_____%	_____%

3. How much did (will) your company's capacity, measured in terms of physical volume, increase (decrease)? Please show year-end vs. year-end changes (year-end 1985 to year-end 1986 for the 1986 column, for example).

	1986	1987	1988
Refining	_____%	_____%	_____%
Coal Mining	_____%	_____%	_____%

At the end of 1986, at what rate of capacity was your company operating?

Refining	_____%
Coal Mining	_____%

What is your firm's preferred rate of operation? _____%

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NO. CH _____
CHEMICALS

BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1987-1989

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charges to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1986, please report spending on a comparable basis for all years.(If answers omit 000's or 000,000's please note: _____ .)

1. How much did (will) your company invest (inflation included) in new plants and equipment in the U.S. in 1986-89 for manufacturing, nonmetallic mining, and other activities.

	1986	1987	1988	1989
Manufacturing	$ _____	$ _____	$ _____	$ _____
Nonmetallic mining	$ _____	$ _____	$ _____	$ _____
Other (please specify)	$ _____	$ _____	$ _____	$ _____
TOTAL	$ _____	$ _____	$ _____	$ _____

2. Of the total amount invested in new plants and equipment, what percent was (will be) for :

	1986	1987	1988
Buildings	_____%	_____%	_____%
Machinery & Equipment	_____%	_____%	_____%
Motor Vehicles	_____%	_____%	_____%
	100 %	100 %	100 %
Of the total invested, what percent was (will be) for expansion?	_____%	_____%	_____%
Of the total invested, what percent was (will be) for employee safety & health?	_____%	_____%	_____%
Of the total invested, what percent was (will be) for :			
Air Pollution Control	_____%	_____%	_____%
Water Pollution Control	_____%	_____%	_____%
Solid Waste Pollution Control	_____%	_____%	_____%

3. How much did (will) your company's capacity, measured in terms of physical volume, increase (decrease)? Please show year-end vs. year-end changes (year-end 1985 to year-end 1986 for the 1986 column, for example).

	1986	1987	1988
	_____%	_____%	_____%
At the end of 1986, at what rate of capacity was your company operating?	_____%		
What is your firm's preferred rate of operation?	_____%		

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NO. N _____
NONFERROUS METALS

BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1987-1989

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charges to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1986, please report spending on a comparable basis for all years.(If answers omit 000's or 000,000's please note: _____ .)

1. How much did (will) your company invest (inflation included) in new plants and equipment in the U.S. in 1986-89, for manufacturing, nonferrous, coal, and nonmetallic mining and 'other' activities. Please include under mining all operations including smelting and refining.

	1986	1987	1988	1989
Manufacturing	$ _____	$ _____	$ _____	$ _____
Nonferrous Mining	$ _____	$ _____	$ _____	$ _____
Coal Mining	$ _____	$ _____	$ _____	$ _____
Nonmetallic Mining	$ _____	$ _____	$ _____	$ _____
Other (please specify)	$ _____	$ _____	$ _____	$ _____
TOTAL	$ _____	$ _____	$ _____	$ _____

2. Of the total amount invested in new plants and equipment, what percent was (will be) for :

	1986	1987	1988
Buildings	_____%	_____%	_____%
Machinery & Equipment	_____%	_____%	_____%
Motor Vehicles	_____%	_____%	_____%
	100 %	100 %	100 %

Of the total invested, what percent was (will be) for expansion?

1986	1987	1988
_____%	_____%	_____%

Of the total invested, what percent was (will be) for employee safety & health?

1986	1987	1988
_____%	_____%	_____%

Of the total invested, what percent was (will be) for :

	1986	1987	1988
Air Pollution Control	_____%	_____%	_____%
Water Pollution Control	_____%	_____%	_____%
Solid Waste Pollution Control	_____%	_____%	_____%

3. How much did (will) your company's capacity, measured in terms of physical volume, increase (decrease)? Please show year-end vs. year-end changes (year-end 1985 to year-end 1986 for the 1986 column, for example).

	1986	1987	1988
Manufacturing	_____%	_____%	_____%
Metal Mining	_____%	_____%	_____%
Coal Mining	_____%	_____%	_____%

At the end of 1986, at what rate of capacity was your company operating?

Manufacturing _____%
Metal Mining _____%
Coal Mining _____%

What is your firm's preferred rate of operation?

_____%

MAY008

CONFIDENTIAL

Data Resources
24 Hartwell Ave.
Lexington, Massachusetts 02173

NO. M _____
MINING

BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1987-1989

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charges to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1986, please report spending on a comparable basis for all years.(If answers omit 000's or 000,000's please note: _____ .)

1. How much did (will) your company invest (inflation included) in new plants and equipment in the U.S. in 1986-89, for manufacturing, nonferrous, and nonmetallic mining and other actvities. Please include under nonmetallic mining all mineral processing.

	1986	1987	1988	1989
Manufacturing	$ _____	$ _____	$ _____	$ _____
Nonferrous mining	$ _____	$ _____	$ _____	$ _____
Nonmetallic mining	$ _____	$ _____	$ _____	$ _____
Other (please specify)	$ _____	$ _____	$ _____	$ _____
TOTAL	$ _____	$ _____	$ _____	$ _____

	1986	1987	1988
2. Of the total amount invested in new plants and equipment, what percent was (will be) for :			
Buildings	_____%	_____%	_____%
Machinery & Equipment	_____%	_____%	_____%
Motor Vehicles	_____%	_____%	_____%
	100 %	100 %	100 %
Of the total invested, what percent was (will be) for expansion?	_____%	_____%	_____%
Of the total invested, what percent was (will be) for employee safety & health?	_____%	_____%	_____%
Of the total invested, what percent was (will be) for :			
Air Pollution Control	_____%	_____%	_____%
Water Pollution Control	_____%	_____%	_____%
Solid Waste Pollution Control	_____%	_____%	_____%
3. How much did (will) your company's capacity, measured in terms of physical volume, increase (decrease)? Please show year-end vs. year-end changes (year-end 1985 to year-end 1986 for the 1986 column, for example).			
Manufacturing	_____%	_____%	_____%
Mining	_____%	_____%	_____%
At the end of 1986, at what rate of capacity was your company operating?			
Manufacturing	_____%		
Mining	_____%		
What is your firm's preferred rate of operation?	_____%		

CONFIDENTIAL

Data Resources
24 Hartwell Ave.
Lexington, Massachusetts 02173

NO. IC _____
IRON & STEEL

BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1987-1989

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charges to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1986, please report spending on a comparable basis for all years.(If answers omit 000's or 000,000's please note: _____ .)

1. How much did (will) your company invest (inflation included) in new plants and equipment in the U.S. in 1986-89, in manufacturing, iron, coal, and nonmetallic mining and 'other' activities. Please include under mining all operations including smelting and refining.

	1986	1987	1988	1989
Manufacturing	$ _____	$ _____	$ _____	$ _____
Iron Mining	$ _____	$ _____	$ _____	$ _____
Coal Mining	$ _____	$ _____	$ _____	$ _____
Nonmetallic Mining	$ _____	$ _____	$ _____	$ _____
Other (please specify)	$ _____	$ _____	$ _____	$ _____
TOTAL	$ _____	$ _____	$ _____	$ _____

2. Of the total amount invested in new plants and equipment, what percent was (will be) for :

	1986	1987	1988
Buildings	_____%	_____%	_____%
Machinery & Equipment	_____%	_____%	_____%
Motor Vehicles	_____%	_____%	_____%
	100 %	100 %	100 %
Of the total invested, what percent was (will be) for expansion?	_____%	_____%	_____%
Of the total invested, what percent was (will be) for employee safety & health?	_____%	_____%	_____%
Of the total invested, what percent was (will be) for :			
Air Pollution Control	_____%	_____%	_____%
Water Pollution Control	_____%	_____%	_____%
Solid Waste Pollution Control	_____%	_____%	_____%

3. How much did (will) your company's capacity, measured in terms of physical volume, increase (decrease)? Please show year-end vs. year-end changes (year-end 1985 to year-end 1986 for the 1986 column, for example).

	1986	1987	1988
Manufacturing	_____%	_____%	_____%
Metal Mining	_____%	_____%	_____%
Coal Mining	_____%	_____%	_____%

At the end of 1986, at what rate of capacity was your company operating?

Manufacturing	_____%
Metal Mining	_____%
Coal Mining	_____%

What is your firm's preferred rate of operation? _____%

RESEARCH AND DEVELOPMENT (R&D)

1. What was the cost of all R&D performed by your company in the U.S. in 1985 and 1986? (If your answers omit 000s or 000,000s, note:_____.)

   1985 $ _____

   1986 $ _____

2. By what percent do you think your company's total R&D spending will increase (decrease) between 1986-87 and 1987-89?

1986-87	1987-89
_____ %	_____ %

SALES AND PRICES

1. What were your company sales, including exports, in 1986? (If your answers omit 000s or 000,000s, note: _____ .)

   $ _____

2. By what percent do you think your sales will increase (decrease) between 1986-1987?

   _____ %

3. By what percent do you think the prices of goods and services your company sells will increase (decrease) between 1986-1987?

   _____ %

4. By what percent do you expect the prices of plant and equipment your company buys to increase (decrease) between 1986-1987?

   _____ %

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____

ALL YOUR ANSWERS WILL BE HELD STRICTLY CONFIDENTIAL
(Please return by May 15)